TERMS OF REFERENCE

CONSULTING SERVICE FOR THE FEASIBILITY STUDY, DETAILED ENGINEERING DESIGN AND ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT, ENVIRONMENTAL AND SOCIAL INSTRUMENTS FOR RURAL ROAD REHABILITATION

(Contract: ERRRP-Grant: CS-1)

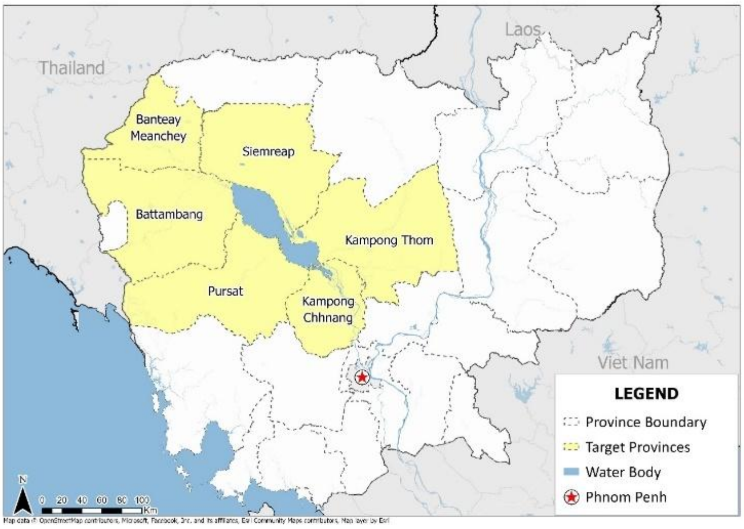
I. INTRODUCTION AND BACKGROUND

A. INTRODUCTION

1. Cambodia, officially known as the Kingdom of Cambodia, had a population of 15.5 million according to the 2019 Census, with estimates for 2023 placing the population at 17.1 million. Over 60% of the population resides in rural areas. The National Strategic Development Plan (NSDP) 2019-2023 identifies the promotion of the agriculture sector and rural development as key strategies for achieving inclusive and sustainable development in Cambodia. Rural mobility faces key issues such as the limited all-weather roads, extent of paved roads, as well as affordability, availability and other issues related to rural transport services. Significant progress has been made in recent years, particularly in improving and furthering the development of rural transport infrastructure including all-weather road network expansion. Based on the latest statistics from 2022, Cambodia's road network is some 67,000 km long, including over 7,400 km of national roads, 11,300 km of provincial roads, and about 48,000 km of rural roads.

2. While rural road improvement efforts are on-going to create all-weather roads capable of better withstanding severe weather events and related contingencies, key issues still remain nationally related to flood damaged roads including inadequate road designs to address impending climate change challenges as well as the need to incorporate resilient and better designs and materials. Against this backdrop and to respond to the 2022 flooding deluge, the Cambodian Government and the Ministry of Rural Development (MRD) have approached the Asian Infrastructure Investment Bank (AIIB) to restore the quality and condition of the damaged/deteriorated rural road network in six impacted provinces around Tonlé Sap Lake, namely: (i) Kampong Thom; (ii) Siem Reap; (iii) Banteay Meanchey; (iv) Battambang; (v) Pursat; and (vi) Kampong Chhnang.

3. Collectively known as the Emergency Rural Road Reconstruction Project (or ERRRP), this AIIB funded MRD project focuses on reconstruction and enhancement of the climate resilience for some 600 km of damaged rural roads in the noted provinces as shown in Error! Reference source not f ound.**.** These improvements aim to provide better road access and connectivity to rural Cambodians living in the target provinces. Not only will the reconstructed and more climate-resilient road network help target communities to meet basic needs, access services, and promote economic and social development opportunities, but the network will also be more resilient to future flooding and climate related events.



Source: Study Team

Figure I.1: Six Target Provinces of ERRRP

B. BACKGROUND

4. Due to their proximity to Tonlé Sap River and Tonlé Sap Lake, the six target provinces (Kampong Thom, Siem Reap, Banteay Meanchey, Battambang, Pursat, and Kampong Chhnang) face increased flood risks from these nearby water bodies. With the majority of rural roads (about 80%-90%) being unpaved, rural road networks in these provinces are highly vulnerable to flooding. Of note, only about 12% of rural roads in Banteay Meanchey, Kampong Chhnang, and Pursat are paved. This figure is below 10% for the other three provinces. Despite having the most extensive road network of the six provinces, paved roads only account for 9.8% of all roads in Battambang (or about 542.7 km).

5. On average each year, more than 1,200 km of roads are damaged from flooding. In 2021 for instance, road infrastructure in Banteay Meanchey, Battambang, and Kampong Thom suffered significant damage during the wet season, with 300-400 km of roads impacted by flooding. While Pursat experienced less extensive damage (with over 100 km of roads impacted), this is still double the extent of damage reported in Siem Reap and Kampong Chhnang.

6. Extreme flood events generate even more severe damage to the rural road network and rural mobility and connectivity. The 2022 floods damaged over 1,600 km of roads with Battambang having some 473 km of road impacted, followed by Kampong Thom with over 446 km, Banteay Meanchey with 286 km, Pursat with 153 km, and Siem Reap with 125 km (with no damage reported in Kampong Chhnang). In terms of households impacted, Kampong Thom and Battambang had over 29,000 and 19,000 households impacted, respectively, accounting for 56% of total affected households.

7. In 2024, the World Bank assessed flood-induced rural road disruptions in Cambodia using geo-spatial modelling, projecting significant impacts on provincial accessibility over the next 50 years. Among the six provinces, Battambang is expected to be the most affected, with nearly 50% fewer residents able to reach referral hospitals within 60 minutes and a 45% decrease in job accessibility. Pursat, Banteay Meanchey, and Kampong Thom will also face notable reductions in healthcare and job accessibility. Kampong Chhnang and Siem Reap are also projected to be impacted but less severely, with minor decreases in accessibility to hospitals, schools, and markets.

8. The regions around Tonlé Sap Lake experience significant seasonal water level changes, supporting diverse ecosystems such as agriculture, flooded forests, grasslands, wetlands, and highly productive inland fishery. These fertile plains have established a major rice-producing hub in Cambodia. Additionally, forested areas in northern Kampong Thom and Siem Reap, and southern Battambang, Pursat, and Kampong Chhnang are vital for maintaining ecological balance. Therefore,

key considerations for infrastructure enhancement/development in these regions include balancing the needs of infrastructure with preservation of ecosystems, as well as protecting heritage and archaeological sites.

9. To set the stage for the road reconstruction effort, the AIIB funded ERRRP conducted a project scoping study to select 600km of prioritized roads for investment from a total of over 1,000 km proposed by the six provinces. An evaluation framework was formulated to prioritize rural roads based on various factors including: (i) the urgency and criticality of the potential impact of road damage on daily lives and economic activities; (ii) whether the section in question is a strategic regional connectivity link that is either missing or damaged; (iii) whether the road is at significant risk from climate change including extreme heat, river flooding, and landslides; and (iv) the ease of construction and cost effectiveness of improving the section.

10. To ensure alignment with the AIIB's Environmental and Social Standard 1 (ESS1) and ensure that selected roads will not trigger a prolonged process requiring extensive ecological and impact assessment in later stages, the scoping study also conducted a preliminary E&S screening to eliminate potential road segments located within (or one that has the potential to impact) a Protected Area (PA) and/or Key Biodiversity Area (KBA).

11. As a result, a total of 62 road segments covering over 642.8 km were selected for further consideration. The number of selected segments and corresponding total length are summarized in the table below, while maps illustrating selected roads in the six provinces are presented in **Attachment III-1:** Map of Selected Roads in Six Provinces.

Table I.1: Summary of Selected Roads in the Six Provinces

Province	# of Road Segments	Total Length of Selected Segments (km)
Banteay Meanchey	9	103.6
Battambang	8	108.2
Kampong Chhnang	11	111.6
Kampong Thom	9	104.9
Pursat	12	104.5
Siem Reap	13	109.9
Total	**62**	**642.8**

12. The majority of selected roads are currently in poor to fair condition, featuring laterite surfaces, with some at significant risk from flooding. An overview of these roads in each province is provided below, with more detailed information available in **Attachment III-2**: Detailed Information on The Selected Roads

- **Banteay Meanchey Province –** Selected segments range from 4.3 km to 26.6 km in length, with widths ranging from 5-7 m. Most roads are in poor condition with laterite surfaces. Road 023 (Takong) has a 1.0 km section damaged by flooding.
- **Battambang Province -** Selected segments range from 7.0 km to 34.3 km in length, with widths ranging from 4.0 m to 8.0 m. Roads are mainly in poor condition, with gravel or laterite surfaces. All selected roads experience annual flooding, with damage extending some 4.4 km.
- **Kampong Chhnang Province -** Selected segments range from 4.6 km to 29.0 km in length, with roads being 5.0 m wide. Most roads are in poor condition with laterite surfaces. No flooding risks have been mentioned.
- **Kampong Thom Province -** Selected segments range from 5.9 km to 15.4 km in length, with roads being 5.0 m wide. Road conditions are mostly fair with laterite surfaces. Some roads experience annual flooding, with damage extending to some 8.0 km.

- **Pursat Province -** Selected segments range from 5.5 km to 15.0 km in length, with road widths ranging from 4.5 m to 6.0 m. Most roads are in poor condition with laterite surfaces. Flooding affects most roads, with damages up to 6.5 km.
- **Siem Reap Province -** Selected segments range from 3.0 km to 20.6 km in length, with road widths ranging from 5.0 m to 6.0 m. Most roads are in fair condition with laterite surfaces. No flooding risks have been mentioned.

II. OBJECTIVE OF THE CONSULTANCY ASSIGNMENT

13. As part of the ERRRP, consultancy services are required for preparing the feasibility study (FS), a detailed design package, as well as the Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Planning Framework (ESMPF) for selected rural roads in the six provinces as noted above. This service will be carried out by a single consulting firm (the Consultant), to be engaged by the MRD under the ERRRP. Objectives of the three main services in this scope are outlined as follows:

- **FS -** Conduct comprehensive FS and develop preliminary designs for the approximately 600 km of target rural roads across the six provinces. The goal of the feasibility studies is to identify the optimal solution for converting these roads into all-weather paved roads, utilizing Double Bituminous Surface Treatment (DBST) and/or other suitable pavement types, based on rigorous technical and economic analyses. The design approach should incorporate innovative practices, ensure climate resilience, green construction, and road safety measures, as well as consider resource efficiency, and use of modern design tools/techniques. The FS shall also seek to optimize adoption of paved surfaces and bridges on existing roads, ensure cost-effectiveness, and meet requirements of local communities, businesses, and industries for the next 10-15 years.
- **Detailed Engineering Design (DED) -** Prepare a comprehensive design package for the target 600 km of rural roads in the six provinces, including DED, environmental and social (E&S) safeguard studies, and procurement assistance such as bid document preparation. This package will support the government and the AIIB in project processing and procurement, and will include preparation of safeguard documents covering environmental, social, and gender aspects for the project. Additionally, this design phase will include capacity building to enhance the capabilities of the Project Implementing Unit (PIU), Maintenance Units, and the Executing Agency (EA) through targeted training and support.
- **ESIA, ESMPs, ESMPF and Other E&S Instruments–** Prepare an ESIA covering the six (6) provinces, as well as: (i) an Environmental & Social Management Plans (ESMPs) for each of the six (6) provinces under the Project; (ii) an ESMPF, including a Resettlement Policy Framework (RPF); (iii) an Indigenous Peoples Planning Framework (IPPF); and (iv) any other relevant assessments and plans needed to meet country E&S requirements, AIIB ESF, Good International Industry Practices (GIIP), and other relevant E&S standards.

14. The assignment is expected to commence in 2025 and be completed within approximately 9 months. The FS is expected to take 3 months, followed by 6 months for DED and ESIA/ESMPF (and related documents noted above).

15. The assignment shall be performance-based with specific outputs and deliverables, as stipulated in the subsequent sections of the TOR. It is estimated that about 81 person-months of international experts and 530 person-months of national experts are needed for the Consultant' services.

III. APPLICABLE E&S STANDARDS AND GUIDELINES

16. The project has been categorized as Category B tentatively under AIIB's Environmental and Social Policy (ESP). The Environmental and Social Standards (ESS), E&S Exclusion List and Project-affected People's Mechanism (PPM) of the bank apply to this Project.

- **The ESS 1** - The Project is likely to have adverse environmental and/or social risks and impacts, the Consultant needs to conduct an E&S assessment relating to these risks and impacts, and design appropriate measures to avoid, minimize, mitigate, offset or compensate for them, all as required under E&S Standard 1: Environmental and Social Assessment and Management (ESS 1).
- **The ESS 2** – If Involuntary Resettlement would occur under the Project, describe this in the assessment and complement it with the preparation of a LARPF/LAPF/RPF or LARP/LAP/RP as required by ESS 2. The Project is about rehabilitation of selected roads which likely involves road widening and is likely linked to some land acquisition and involuntary resettlement. The Consultant needs to prepare a plan or framework, as applicable, which may be called a land acquisition and resettlement plan, land acquisition plan or resettlement plan (LARP/LAP/RP) or, in the case of a framework, a land acquisition and resettlement planning framework, land acquisition planning framework or resettlement planning framework (LARPF/LAPF/RPF). This plan or framework is provided to the Bank as a freestanding document, an annex to the assessment report, or incorporated as a recognizable element of the report.
- **The ESS 3** - If Indigenous Peoples are present in, or have a collective attachment to, the proposed area of the Project and are likely to be affected by the Project, describe this in the assessment and complement it with the preparation of an IPPF or IPP as required by ESS 3. Other E&S standards and guidelines applicable to this project are outlined in Section V Terms of Reference of the ESIA.
- In addition to the AIIB's ESF, the Project shall prepare instruments aligning relevant national requirements and legislation and good international practices include but are not limited to:

    (1) Applicable country policies, laws, regulations and standards environment, health, safety and social aspects.

    (2) Relevant international treaties and conventions to which Cambodia is a signatory;

    (3) World Bank Group (WBG) Environmental, Health, and Safety (EHS) General Guidelines (2007);

    (4) WBG EHS Guidelines for Toll Roads (2007);

    (5) IFC Performance Standards 6: Biodiversity Conservation and the Sustainable Management of Living Natural Resources including Guidance Note 6;

    (6) All ILO conventions signed and ratified by the country, all ILO conventions covering core labor standards and all ILO conventions covering the basic terms and conditions of employment;

    (7) IFC Good Practice Handbook: Cumulative Impact Assessment and Management: Guidance for the Private Sector in Emerging Markets (2013); and

    (8) Other relevant GIIP.

IV. CONSULTING FIRM

17. The Consulting Firm shall be a reputable consultancy firm to undertake the consulting services as described in this TOR. The consulting firm should have the following qualifications:

a. Should not be debarred by AIIB. (https://www.aiib.org/en/about-aiib/who-we-are/debarment-list/index.html)
b. No conflict of interest for the consulting firm to provide the consulting services (Please refer to AIIB Directive on Procurement Instructions to Recipients: https://www.aiib.org/en/policies-strategies/_download/operational-directive/AIIB-Directive-on-Procurement-Instructions-for-Recipients-July-26-2024.pdf)
c. Be a firm or lead firm of a JV, with core business experience in highway infrastructure engineering design services or rural road infrastructure engineering design service and have at least ten (10) years of demonstrated experience in highway infrastructure engineering sector.
d. Be a firm or lead firm of a JV, with staff of the disciplines as mentioned in the consulting services of this TOR.
e. Be a firm or a JV, with sound technical and managerial organization.
f. Be a firm or lead firm of a JV, that have the proven record of completing at least two DED contracts in the highway engineering design sector or rural road engineering designed sector in the past ten years (2014-2024)
g. Be a firm, or the lead firm of a JV, should have completed at least two MDB financed contracts of similar nature and value in the past ten years (2014-2024).
h. Be a firm or lead firm of a JV, that demonstrate experience in preparing Environmental and Social Impact assessment, Environmental and Social Instrument for Rural Road Rehabilitation.
i. The consulting firm shall have at least two similar contacts experience in highway engineering design or rural roads engineering design in Cambodia or in South East Asia region.

18. For evaluation, the consulting firm must submit the following:

a. A list of similar projects completed with contract amounts.
b. Its company profile including number of technical personnel.

V. RESPONSIBILITIES OF THE CONSULTANT

19. The scope of work outlined in this ToR should be regarded as essential, though not exhaustive. The Consultant is expected to exercise professional judgment and proactively identify areas of engagement and additional E&S assessments as needed. The aim is to ensure that the analytical output is comprehensive and compliant with relevant national laws and regulations and AIIB ESF and international good practices.

20. The Consultant shall be accountable for completing the tasks outlined in this ToR, including collecting and analyzing secondary and primary data, supporting other project Consultants. Consultations shall be conducted in Khmer including health guidance and requirements.

21. In undertaking activities under this ToR, the Consultant shall ensure compliance with the E&S requirements in Section III Applicable E&S Standards and Guidelines. At a minimum, an iterative design process shall be adopted such that E&S risks and impacts are reflected in the project, following the ES mitigation hierarchy, i.e., to anticipate and avoid ES risks and impacts, and if avoidance is not possible (where acceptable under the ESF), to minimize to the extent feasible, and where significant residual impacts remains, compensate for or offset them, where feasible.

22. Two approaches are adopted for this Project: A framework approach and site-specific assessments. The former applies during the preparation of the FS phase, where the Consultant is expected to prepare the required ESMPF alongside a Resettlement Policy Framework (RFP) and other

requirement instruments including a Stakeholder Engagement Plan (SEP), as well as carrying out a gender assessment and prepare a Gender Action Plan (GAP).

23. Once the provincial-level DED are available, the Consultant will prepare site specific E&S instruments, namely the E&S Impacts Assessments (ESIA)/E&S Management Plan (ESMP) for each province, which include labor management plans, site specific Resettlement Action Plans (RAP), and site-specific Stakeholder Engagement Plans (where required).

24. More specifically, it is expected that:

(a) During the FS stage, the Consultant shall identify potential E&S risks and impacts, perform a desktop review to determine the availability of E&S baseline information, and identify gaps that shall be required to characterize the E&S baseline, undertake E&S baseline studies and surveys required for FS, characterize an appropriately detailed baseline, and select and apply relevant E&S criteria to inform feasibility stage optioneering and selection of road selection taken forward for DED. **Refer to Annex 1 for tentative road sections.**

(b) Prepare a stakeholder analysis and gender assessment, and prepare a Stakeholder Engagement Plan (SEP), and a Gender Action Plan (GAP). **Refer to detailed SEP and GAP requirements in Section VI. Terms of Reference of ESIA Task 5 and Task 9.**

(c) After the FS, prepare an ESMPF and E&S Scoping Report, that:

i. Describes a framework for undertaking Environmental and Social Impact Assessments (ESIAs) in the Project Areas defining the total number of ESIAs that shall be required, the boundaries of the projects and subprojects for which individual ESIA's shall be carried out (including the permanent, temporary and associated facilities[10] that shall comprise projects / sub-projects), and a schedule for delivery of the ESIAs (mapped to the program for Preliminary and DED). It shall also determine the availability and suitability of community grievance redress mechanisms (GRMs) in the Project Areas as may be available to support projects. **Refer to detailed ESMPF requirements in Section VI. Terms of Reference of ESIA Task 12 and the ESMPF template in Annex 2**

ii. Scopes for each of the proposed ESIAs, including identification of topics that shall be scoped in and out of each province's ESIAs, baseline survey requirements, assessment methodologies and responsibilities for the assessments, and assessment areas of influence, etc. **Refer to detailed E&S Scoping Report requirements in Section VI. Terms of Reference of ESIA Task 2.**

The Consultant shall attend a follow-up meeting with the PMU Project team and AIIB in which the Scoping Report shall be described, and key findings highlighted. This meeting could be held either via video-conference or in person, and the format shall be specified in the Consultant's proposal.

(d) Prepare alongside the FS and ESMPF and in accordance with good international practice and the AIIB ESP, a Resettlement Policy Framework (RPF), an Indigenous Peoples Planning Framework (IPPF) and other required framework plans as may be identified as necessary during the feasibility stage as relevant, to define overarching institutional frameworks, general responsibilities of project delivery parties /stakeholders, and overarching approaches, standards, sub-plans, procedures (such as for specific risk topics including biodiversity, waste management, pollution prevention, erosion control, noise, air quality etc. as per the identified risks and impacts) and implementation tools etc. that shall be adopted and elaborated during detailed design through the drafting of site-specific management plans. **Refer to RFP, IIPF requirements in Section VI. Terms of Reference of ESIA Task 10-11**

(e) Alongside the Preliminary and DED and in accordance with the ESIA schedule presented in the ESMPF, prepare 6 ESIAs (one for each province) and respective management plans and procedures etc. ESIAs shall be conducted in parallel with design such that ESIA findings can inform the configuration or design of sub-components of the proposed road reconstruction as necessary as part of an iterative design process. Each ESIA shall be accompanied by a non-technical summary (NTS) to support stakeholder engagement. **Refer to detailed ESIA requirements in Section VI. Terms of Reference of ESIA Task 3.**

(f) To the extent that any E&S compliance actions / mitigations shall be passed down to contractors and sub-contractors, the Consultant shall ensure that these are captured in the contracting agreements and shall prepare ToRs / scopes of work / contract specifications as necessary to achieve this. Standard contract conditions to adopt and comply with AIIB's ESP 2024 shall also be included. ESIA and associated ESMPs and other E&S instruments shall be a record of what measures have been (or shall be) integrated into the design to mitigate E&S risks and impacts. It will guide the preparation of procurement documents to ensure clarity of responsibilities for E&S issue management moving forward.

25. The PMU will provide reasonable support as needed to facilitate the smooth execution of this effort. Project records as applicable, such as the initial E&S Screening Report, permits and approvals, consultation records, and other relevant documents, will be made available for review and, if necessary, copying. In instances where the PMU do not have the required documents or information to fulfil the objectives and scope of work in this ToR, the Consultant assumes responsibility for collecting them. It will be the responsibility of the Consultant to translate relevant documents and/or information provided by the PMU and stakeholders into Khmer and/or English, including the E&S documents that need to be disclosed by AIIB.

26. The Consultant shall also work with the Ministry of Economy and Finance's (MEF) Department of Resettlement (GDR) for preparation of relevant land acquisition and resettlement documents and cooperate with local consultants who are registered with the Ministry of Environment (MOE) as needed during the national approval process. However, the Consultant is not expected to develop documents for regulatory submissions and approvals.

VI. TERMS OF REFERENCE FOR FS AND DED

A. SCOPE OF WORKS

27. The Consultant's scope of work shall include preparation of the FS, preparation of DED including cost estimates, economic and financial analysis, and preparation of procurement documents as well as procurement support for the EA.

28. The Consultant shall detail in the proposal the interfaces between these tasks to deliver quality and on-time outcomes/deliverables for the required scope of work.

A.1. FS

29. In preparing the FS, the Consultant shall consider alternative engineering and nature-based/environmental solutions such as materials used, pavement designs, drainage improvements, and bridge/culvert types, to formulate cost-effective, green, and safe solutions to enhance the climate resilience of the selected rural road segments. The FS shall also examine comparative costs of alternatives and identify engineering, environmental and social risks and impacts, as well as advantages/disadvantages of alternatives. Future maintenance requirements shall also be considered when comparing alternatives. Where E&S compliance of any option with AIIB's ESF and national requirements relies on the undertaking of future actions, these shall be specified including responsibilities, costs and timeframes.

30. The study will encompass the following key tasks:

31. **Data Collection and Review.** The Consultant shall collect the available data and information relevant to the selected roads for reconstruction in this FS. This list shall not include any data or

information to be collected through direct surveys by the Consultant. The data and documents of major interest will include, but not be limited to, the following:

- Strategies, master plans, and reports from previous studies.
- Climate and existing climate change projections.
- Road inventory.
- Road condition, year of original construction, year and type of major maintenance/rehabilitation works.
- Condition of bridges and drainage structures.
- Sub-surface and geotechnical data for existing bridges.
- Hydraulic data, drawings and details of existing bridges.
- Details of ongoing and/or planned works on the project road area by the EA or other agencies.
- Survey and evaluation of locally available construction materials.
- Historical data on classified traffic volume (preferably for 5 years or more).
- Origin-destination and cargo movement characteristics, if available.
- Speed and delay characteristics, if available.
- Cargo-wise traffic volume, if available.
- Road accidents and incidents statistics.
- Vehicle loading behavior (axle load spectrum), if available.
- Type and location of existing utility services (cables, electricity, telephone line, water mains, sewer, etc.).
- Type and location of existing traffic aids, road lighting, and other road furniture.
- Environment and social assessments and baseline data.

32. **Preparation of Stakeholder Engagement and Work Plan.** The consultant shall prepare stakeholder engagement plan, an initial risk register for the project and a detailed work program for the delivery of this assignment. This includes but is not limited to:

- Hold technical discussions with relevant agencies to gain additional and beneficial insights and discuss the approach to this study.
- Identify relevant stakeholders, including but not limited to local authorities, other relevant government agencies, beneficiaries, directly and indirectly affected communities (including women) and interest groups (civil societies and non-governmental organizations).
- Identify potential impacts on women and men including vulnerable households in relation to their differing transport needs and priorities.
- Identify the gender transport patterns of different groups, including vulnerable groups.
- Prepare an initial risk register for the project.
- Provide a detailed work program for the delivery of this assignment.

33. **Site Surveys and Assessments.** The Consultant shall be responsible for conducting all assessments and surveys necessary to gather data for the FS and subsequent design activities including, but not limited to, the following:

i. **Topographic Survey** to map the terrain, slopes, and elevation changes. The Consultant shall propose suitable methods and technology to produce a detailed topographic map showing elevation contours and terrain features.

ii. **Geological and Geotechnical Survey** to understand soil types, rock formations, and geotechnical properties and assess stability and suitability for road construction.

iii. **Hydrological Survey** to assess water resources, drainage patterns, and potential flood risks through stream flow measurements, watershed analysis, and floodplain mapping, providing maps of hydrological features and recommendations for drainage solutions.

iv. **Ecological Survey** to evaluate the local flora and fauna, including biodiversity hotspots and sensitive habitats. The Consultant shall prepare an inventory of plant and animal species, habitat mapping, and an assessment of ecological impacts.

v. **Preliminary Environmental Screening and Environmental Impact Survey** to identify and evaluate potential environmental impacts. It shall integrate the findings from ecological, hydrological, and geological surveys to prepare an initial environmental impact assessment with mitigation recommendations. (details refer to Annex 1).

vi. **Social Impact Survey** to conduct household and land ownership, structures and livelihood surveys, interviews with community members, and public consultations, and assess the socioeconomic conditions of local communities, including women and vulnerable groups, and determine potential issues and project impacts.

vii. **Climate Change and Disaster Risk Screening and Assessment Survey** to review the historical climate data, projection of future climate scenarios, and assessment of extreme weather risks.

viii. **Traffic and Transport Survey** to analyze current traffic patterns and future transportation needs. This involves performing traffic counts, flow analysis, axle load survey and transportation modeling to gather data on traffic volume and flow. The survey will provide insights into existing traffic conditions and project future transportation demand, thereby informing the planning and design of the roads. Suitable maps and charts shall accompany proposals, clearly indicating rationale for selecting the location of survey stations. The Consultant shall finalize the methodology for collecting and analyzing data, as well as the number and location of traffic survey stations, in consultation with the EA/AIIB.

ix. **Existing Structure Survey** to develop an inventory of existing structures along the proposed alignment such as bridges, roads, culverts and structures, if any. The survey will identify bridges and culverts that are in good condition and functioning well, as well as those in poor or fair condition with deterioration, inadequate designs, or other deficiencies requiring replacement or rehabilitation.

x. **Interface Study** to assess any planned and potential developments in the vicinity of the project area. Identify key stakeholders including government agencies and private sector investment and evaluate their potential contributions and/or conflicts to the project.

34. All surveys and investigations as per the applicable codes and manuals to prepare good quality engineering designs are the responsibility of the Consultant and to be accounted for in the Consultant's proposal.

35. The Consultant shall also conduct additional engineering surveys in the DED stage to identify fundamental materials to supplement the information collected from the FS stage that meets the requirements in the Cambodia Road Design Standard.

36. Based on the initial information collected, the Consultant will investigate the engineering feasibility and constructability of the selected roads and produce details to such an extent to enable the Client to take forward the Project to detailed design and construction stages including, but not limited to, the following:

- Preliminary design.
- Demonstration on buildability.
- Construction stages/ phasing of works.
- Operation and maintenance requirements.
- Works package and procurement strategy.
- Preparation of estimates of total implementation cost and recurrent cost of the project.
- Implementation programme of the Project.

37. **Review and Develop Design Criteria.** The Consultant shall review and update or prepare comprehensive design criteria in accordance with internationally accepted design standards and MRD standards. The criteria shall incorporate climate-resilient designs and consider alternative engineering and nature-based/environmental solutions, such as materials used, pavement design, drainage improvements, and types of bridges and culverts, to determine cost-effective, green, and safe solutions for the selected rural roads along the existing alignments. The criteria shall clearly state all assumptions regarding loads imposed on the structures and the expected movements, so these effects can be accounted for in the design of the utilities. If there are physical constraints on any of the structures, such as insufficient right of way or space limitations, the Consultant may suggest sub-standard design criteria for consideration by the implementing agency.

38. **Traffic Demand Forecast.** The Consultant shall prepare a traffic demand forecast and estimate potential traffic growth rates for all vehicle categories. This will involve considering past trends, annual population growth, real per capita growth rate, transport demand elasticity relative to income, and estimated annual production increases. The Consultant shall also account for socio-economic development plans, regional land use patterns, development plans for other transport modes, origin-destination (O-D) studies, and cargo movement behavior. The forecast shall also include diverted traffic from other routes. The values for transport demand elasticity shall align with prevailing practices in Cambodia. The Consultant shall provide a comprehensive background, including references, for the selected elasticity values. Traffic forecasts will also be used to assess junctions and roads leading to the upgraded facility with mitigation measures proposed and designed as warranted to accommodate the updated traffic demand on the upgraded road.

39. The reconstruction of the selected rural roads is expected to be completed and opened to traffic within three years. Traffic demand estimates shall be projected for an additional 10-year period following completion as inputs to the economic benefit analysis (possibly in terms of travel time savings, vehicle operating cost savings, and safety benefits). These projections shall be based on sound and proven forecasting techniques. If a model is used for estimating traffic demand, its application in a similar situation shall be validated to ensure the accuracy of the results. Overall traffic forecast shall form: (i) the basis for the design of pavement types and other facilities/ancillary works; and (ii) data for cost-benefit and economic analysis.

40. **Option Assessment.** The designs to reconstruct selected rural roads shall adhere to the existing alignment and remain within the official Right of Way (ROW) to avoid land acquisition. However, available space for the new alignment may be limited in some sections due to the presence of existing buildings and utilities. The Consultant shall conduct site visits and consultations with key stakeholder groups (e.g., local residents and communities, local government officials, CSOs/NGOs, Indigenous Peoples (where required), other experts, and affected parties) to identify locations where additional land may be required with documentation of rationale for acquisition (if any), with options assessed. Based on the design criteria, the Consultant will prepare preliminary cross-section and pavement structure alternatives and identify the Corridor of Impact (CoI).

41. The main goal of the option assessment is to compare principal technical alternatives and alternative alignments to: (i) define the contents of the environmental and social impact assessment and related E&S documents; and (ii) provide basis for the selection of the most feasible alternatives for each road section.

42. By analyzing the results of surveys taken, the Consultant will recommend the Preferred Alignment Option for approval by EA/AIIB, or where necessary based upon the other options proposed by EA/AIIB.

43. **Preliminary Alignments.** The Consultant shall prepare preliminary alignments (vertical and horizontal) of the selected roads and study the possible land access route, temporary and permanent, leading to the Preferred Alignment Option, identify candidate works sites and works areas including those for manpower, materials and plant, concrete batching plant, and other construction activities.

44. **Preliminary Traffic Aids Drawings.** The Consultant shall illustrate in a set of preliminary traffic aids drawings on all traffic lane arrangements along the road lines and at the various connection points.

45. **Construction Methods.** The Consultant shall identify feasible and appropriate construction methods that meets the requirements in The Cambodia Road Design Standard for the selected roads.

46. **Preliminary Project Cost Estimation & Implementation Plan:** The consultant shall prepare the project capital cost estimates and estimate the annual Operation and Maintenance (O&M) costs based on market links unit rates and cost data base on recently completed externally financed in Cambodia. A preliminary Procurement Plan and Implementation Plan will also be required.

47. **Economic and Financial Analysis.** The Consultant shall carry out economic analysis for the project following AIIB's Guidelines. The Consultant shall work out the benefit and cost streams for the project considering life-cycle costing. The Consultant shall work out the Economic Internal Rate of Return (EIRR) and Net Present Value (NPV), and "with/without time and accident savings" scenarios based on cost-benefit streams. Furthermore, the Consultant will assess sensitivity of EIRR and NPV for the different scenarios. The Consultant shall conduct financial analysis on the proposed enhancements against the government providing counterpart funds as well as a sustainability analysis for O&M.

48. **Environment and Social Assessment of Investment Project:** The Consultant shall carry out a preliminary screening of environmental and social assessment risks at all project sites. The requirements for preparing the Environmental and Social Impact Assessment Report and Management Plans as per AIIB's policies can be found in **Section VI. TERMS OF REFERENCE FOR ESIA.**

A.2. DETAILED ENGINEERING DESIGN (DED) AND PROCUREMENT DOCUMENTS (6 MONTHS)

49. For DED, the Consultant will carry out detailed designs and prepare working drawings for the following:

- All-weather rural roads account for climate change hazard.
- Design of pavement for the carriageway and paved shoulders.
- Bridges, culverts and structures.
- At-grade intersections.
- Alignment plans, longitudinal sections and cross-sections at intervals agreed with EA/AIIB.
- Designs for road furniture and road safety/traffic control features.
- Engineering drawings.
- Bypasses, if necessary.
- Drainage design.
- Bridges and structures rehabilitation plan.
- Traffic amenities (parking areas, roadside markets, rest areas, etc.).

50. **Design Standard.** The Consultant shall develop/refine design standards and material specifications for the study primarily based on the Client's guidelines and relevant recommendations from international industry practices and standards (technically and financially feasible) for approval by the Client. The design standards adopted for the project will cover all aspects of detailed design, including the design of geometric elements, pavement design, bridges and structures, traffic safety and materials. The detailed design will integrate the recommendations by close collaboration with ESIA Consultant to avoid and/or mitigate negative environmental and social impacts (mitigation measures) identified in the ESIA.

51. **Field Investigations and Surveys**

(a) Topographic Survey (Road Alignment)

52. The Consultant shall conduct a geodetic terrestrial survey to determine the exact topography through survey of cross-sections at regular intervals (minimum 8-10 survey points per cross-section, e.g.: 1 center, 2 road edges, 2 road bottoms, 2 at road berms, and a few points beyond the berm within the ROW). The detailed terrestrial road survey shall include all relevant infrastructure (existing gullies, culverts, bridges, large trees, etc.), buildings by type and existing structures within the right of way, locations of electric poles and/or telecom installations along the roads, any existing underground utility services and information on high flood level for 10 years return period including unusual flood levels which can be provided by local residents through interviews. The survey results will form the basis for preliminary and detailed design and the calculation of the bills of quantities, technical specification, and other necessary technical inputs for tender documents, and the road contracts. The distance between cross-sections shall be chosen in such a way that the actual topography is well represented and that changes are well documented (i.e. in homogeneous road stretches fewer cross-sections are needed in comparison to rapidly changing topographies, the distance between cross sections shall be minimum 25 m for better accuracy for the required earthwork calculations and 50 m along the straight alignment/no rapid elevation fall). The cross-section shall cover the entire ROW.

53. During the survey, elevation of the current road surface (with at least 8 points per cross-section on either side) shall be measured, and the status of the road surface and road subgrade recorded. The exact total length of the road stretch to be rehabilitated or upgraded shall also be determined. To this end the estimated volumes of works shall then be estimated (based on length and cross section).

54. The Consultant is free to select the most appropriate survey method (e.g. D-GPS, total station, etc.), however, the existing network of Cambodian national geodetic control points shall be included and referenced. The available and adopted national geodetic control points shall be cross-checked to ensure and achieve the required accuracy of measurements. Protocols on these cross-check measurements shall be prepared and made available to MRD and their supporting Consultant.

55. Accuracy requirements:

- Soft surface topography: ± 5 cm in height (elevation) and ± 5 cm in X, Y
- Hard surfaces, exiting road surface (gravel, laterite, SBST, DBST, Concrete) and all details of structures (culverts, bridges, etc.): ± 2 cm in height (elevation) and ± 2 cm in X, Y

56. All geodetic heights shall be referenced to the National Datum of Cambodia (Hatien) and submitted in UTM coordinates.

57. A system of permanent benchmarks for each road section shall be established to facilitate surveys during construction and checking / verification after the construction is finished. These benchmarks shall be designed and established according to national and international standards, being readily identifiable, relatively permanent and recoverable (if destroyed by accident), and maintain their absolute elevation without change over the construction period. Markers shall be located outside the construction area and away from possible disturbing influences. For each benchmark detailed documentation is required.

58. All data points surveyed shall be shared with MRD and other MRD hired Consultant in the sector accompanied by maps and a short summary report explaining the results and achieved accuracies. The agreed formats for data submission shall be in the form of lists of X, Y, Z coordinates (in UTM format) in EXCEL including a basic description on location, road stretch, etc., AutoCAD dwg format, or any ArcGIS compatible format.

(b) Digital Topographic Survey (Drainages structures/Bridges)

59. The detailed survey shall be conducted with a high precision instrument (i.e., Total Station, Auto Level machine, DGPS etc.) after the establishment of the permanent benchmarks in accordance with the road alignment BM. The Survey report shall include the following information:

- A north arrow shall be depicted and prominently shown. All physical features, such as ponds, permanent structures, drains, hills, and wells shall be shown at their exact locations.
- One river/ channel cross section shall be provided along the center line of the proposed bridge alignment and other sections at distances of 0.5, 1, 2- and 4-times the channel widths upstream and at distances of 0.5, 1 and 2 times channel widths downstream. Spot levels on the river cross section shall be taken at 3.0 intervals or as necessary.
- The length of each cross section shall cover the full channel width plus same length of left & right banks, including the upper edges of embankment.

60. Road cross-sections shall be taken along approach roads at both ends of the proposed bridge. Four road sections at each end of the bridge at 25 m interval shall be taken. Spot levels on road cross-sections shall be preferably taken at 1.0 m interval.

61. Bank line survey of the channel shall be conducted as follows:

- For bridges of length up to 100 m in span, a bank line survey of both sides shall be carried out a minimum 100 m upstream and downstream of the bridge.
- For bridges exceeding 100 m in span, a bank line survey of both sides shall be carried out a minimum 300 m upstream and downstream of the bridge.

62. All details within the area as instructed by the client to be surveyed shall also summarize all information on road alignment, side slope, bridges, homesteads, government/ non-government offices, important or historic buildings or structures, trees, electrical installations, markets, community center and other public places. Sufficient spot levels shall be taken at the rate of one per 16m2 area including riverbanks, road edges and embankment toes.

63. The High Flood Level (HFL) shall refer to the Temporary Bench Mark (TBM) or the reference Bench Mark (BM). All Road Levels (RLs) to be taken with respect to TBM/BM available near by the bridge site and location of TBM shall be clearly indicated/depicted on the map. All survey data shall be submitted in an appropriate electronic form suitable for input into design software used by the Engineer.

64. Survey data shall also be submitted in print format, with suitable text on a suitable scale as required by the EA/AIIB, showing all topographical features surveyed, and spot levels with x, y, z, such that these can be used to establish Digital Terrain model (DTL).

65. Three permanent spots near each bridge site shall be marked with Global Coordinates (Longitude & Latitude) and Elevation.

66. For bridge spans exceeding 100 m, the topographical information shall be detailed in the Hydrological and Morphological Study Report and shall be incorporated in the Digital Topo Survey Map.

67. Digital photographs of daylight conditions shall be provided that show, canal/river/approach/access road to the site and other important features around the site. Co-ordinates (longitude & latitude) of both ends of all cross sections of roads and river/canal shall be shown on the Topographic Survey Map. A satellite photograph (e.g. screen shot taken from Google Earth) shall be provided and these co-ordinates shall also be identified properly on it.

68. The overall work shall be carried out up to the satisfaction of the Client MRD / PDRD.

69. In addition to the above requirements, any other special parameters are needed for a particular project site that shall be invariably incorporated.

(c) Geotechnical and Material Investigation

70. Consultant shall conduct materials and geotechnical investigations of existing conditions within (and adjacent to) the existing road ROW, including the existing road pavement and formation, to permit the design of cut and fill slopes and structural foundations, to identify areas where problem materials exist and the treatments proposed for these, and to provide the basis for detailed pavement and structural designs. The study shall also identify nearby sources of materials suitable for use in embankments and pavements.

(d) Sub-soil Testing Work for Bridges

71. In case bridges are encountered along the project road lines, the Consultant shall conduct sub-soil investigation work using a minimum 100 mm exploratory boring for SPT test and soil sample collection. For single span bridges at least two boreholes shall be tested, for three- and five-span bridges at least four boreholes shall be tested, and for large bridges with a total span of L > 100 m, one borehole shall be made at each support of the bridge (pier, abutment).

72. The borehole layout plan shall be shown in the digital topographical survey map in x, y, z Co-ordinate. The 'z' co-ordinate shall be in respect to TBM/BM established during survey works.

73. For each borehole, a minimum depth of boring shall be 20 m. If poor quality soil is encountered (e.g. SPT value < 20), depth shall be extended up to 30 m or more. Normally SPT shall be taken at 1 m intervals up to a depth of 6 m, thereafter 1.5 m intervals may be sufficient. If clayey soil is encountered at any depth during boring, undisturbed soil samples shall be collected with the help of Shelby tubes.

74. At least three digital high-resolution photos of each boring operation in the presence of PDRD representatives and the Consultant's Engineer shall be taken.

75. The following laboratory tests shall be conducted:

- Unconfined compressive strength for cohesive soil (C),
- Direct shear (average: $\tau_{average}$),
- Grain size analysis, Natural Moisture Content, Liquid Limit, and Plastic Limit.

76. The Consultant shall submit a draft Soil Test Report (2 hard and 1 soft copies) with all necessary data, information, bore log, photograph, analysis, and comments, with results mentioning soil bearing capacity. Bore log shall contain N-Value, soil type, water table level. Existing Ground Level (EGL) (TBM/BM) of Borehole top and date & time of commencement & completion of each borehole shall be detailed clearly.

77. The sub-soil testing is intended to support the design of proper Pile Foundation for each bridge.

(e) Hydraulic and Hydrological Investigations

78. The Consultant shall formulate a desk study of available data supplemented by necessary reconnaissance on topography (topographic maps), storm duration, rainfall statistics, topsoil characteristics, vegetation cover, etc., to assess the catchment area and hydraulic parameters for all existing and proposed drainage provisions.

79. The Consultant shall collect information and conduct a climate change assessment, on high flood levels, low water levels, discharge, etc. from available past records, local enquiries and visible evidence. The Consultant shall place special emphasis on longitudinal and cross drainage in village areas and waterlogged areas and explore the possibility of integrating with local storm water drainage systems and recommend for proposed/designed road top level and appropriate drainage structures opening requirements.

80. The Consultant shall consider opportunities for dual-purpose infrastructure which can be linked to rural road upgrades such as improvements to drainage, irrigation infrastructure, homestead and community ponds (created by proper planning and excavation of borrow pits) and other water resources infrastructure structures to provide flood relief and subsistence during droughts.

81. **Geometric Design.** The design of geometric elements should consider essential requirements of such facilities. Based on the data collected from reconnaissance and topographic surveys, the Consultant shall identify sections with geometric deficiencies and suggest implementing suitable measures for improvement. The Consultant shall investigate possible causes (such as poor geometric features, pavement condition etc.) and suggest suitable cost-effective remedial measures for implementation.

82. The detailed design for geometric elements shall cover, but not be limited to, the following major aspects:

- Horizontal alignment.

- Longitudinal profile.
- Cross-sectional elements.
- Junctions and intersections.
- Traffic aids and road furniture (if any).

83. **Pavement Design.** The detailed design of the pavement shall include:

- Strengthening of existing road pavement and design of the new pavement.
- Selection of materials to be used.
- Design of shoulders.

84. The Consultant shall compare the type of paved carriageway and shoulder considering cost effectiveness and function. If the project is located at water shed area, pavement design should consider and take into account climate changes impact and life cycle costs of at least two different pavement designs.

85. **Design of Embankment.** The embankments design shall provide for maximum utilization of locally available materials consistent with economy. The Consultant shall consider salient seasonal features or ground and soil conditions such as soft soil, laterite, wet season, etc. The design of embankments shall include the requirements for protection work and traffic safety features.

86. **Design of Bridge and Structures.** The Consultant shall prepare general arrangement drawings and alignment plans showing the salient features of the bridges and structures proposed to be constructed/reconstructed along the project road sections. The Consultant shall finalize these salient features such as alignment, overall length, span arrangement, cross section, deck level, founding level, type of bridge components (superstructure, substructure, foundations, bearings, expansion joint, return walls etc.) based on hydraulic and geotechnical studies, seismic considerations, cost effectiveness and ease of construction. Preliminary designs shall supplement the general arrangement drawing. In respect to span arrangement and type of bridge, the Consultant shall submit a few alternatives with cost- benefit implications to enable the EA/AIIB to approve the best alternative.

87. After approval of the preliminary design, the Consultant shall prepare detailed design as per recognized guidelines.

88. The existing structures having inadequate carriageway width shall be widened/reconstructed in part or fully as per the EA/AIIB's guidelines. The existing structures with inadequate carriageway width shall be widened/reconstructed if possible and as per the EA/AIIB's guidance.

89. The Consultant shall also carry out the design and make suitable recommendations for protection works for bridges and drainage structures. In case land available is not adequate for embankment slope, the Consultant shall furnish a suitable design for retaining wall.

90. **Design of Drainage System.** The Consultant shall ensure adequate surface and sub-surface drainage of the pavement considering local precipitation, water levels and estimated impacts of climate change within the design period. The Consultant shall also identify requirements for the roadside drainage system and the integration of the same with the proposed cross-drainage system for the entire length of the selected roads. In addition to the roadside drainage system, the Consultant will design the special drainage provisions for sections with super-elevated carriageways, high embankments and for road segments passing through cuts. The designed drainage system shall show locations of turnouts/outfall points with details of outfall structures fitting into natural contours.

91. **Traffic Safety Designs, Road Furniture and Road Markings.** The Consultant shall design suitable traffic safety features and road furniture, including traffic signals, signs, markings, overhead sign boards, crash barriers, delineators, etc. The Consultant shall show the locations of these features in the reports and drawings. The Consultant with the Independent Road Safety Auditor shall undertake an inspection of the full length of the roadway from a traffic safety perspective, identify appropriate accident mitigation measures for specific locations and incorporate these into the designs.

92. **Cost Estimates.** The Consultant shall prepare detailed estimates for quantities (considering designs and mass haul diagram) and project cost (Engineer's estimate) for the entire project (civil works packages wise), including the cost of environmental and social safeguards proposed and incorporating the cost estimates for the social development and poverty component. The Consultant shall also prepare a detailed Bill of Quantity (BOQ) and split the cost estimate into foreign and local components, for civil works, consulting services, taxes and duties, physical and financial contingencies, and financial charges.

93. **Preparation of Procurement Documents.** The Consultant shall prepare the Procurement Documents for Civil Works and Goods and Consulting Service in accordance with the AIIB Procurement Policy and Procurement Instructions to Recipients. In the process of preparing the Procurement Documents the Consultant will:

- Develop relevant contract package(s) for the Procurement Documents, in accordance with international standards in line with AIIB Procurement Procedures, including detailed specifications, BOQ, and employer's requirements. The BOQ and technical specifications shall incorporate all relevant environmental and social mitigation measures specified in the ESMP and other management plans, such as dust control, noise abatement, waste management, traffic safety measures during construction. Specifically, the technical specifications shall incorporate hazard identification, risk assessment and controls, recorded in the risk register. Consider environmental and social factors in both construction and operation phases, including any specific or unique conditions or requirements. Prepare temporary generic designs or appropriate specifications for temporary protection measures during construction. The main focus will be given to details for bid evaluation criteria and contractors evaluation criteria. These will be developed in close consultation with the EA/AIIB.

- Include the technical specifications with define minimum standards for labor and working conditions, including occupational health and safety, non-discrimination, and provision of adequate worker facilities, in line with AIIB's ESF.

- Define labor management standards, including adherence to national labor laws and international standards, and specify requirements for community health and safety, including accident prevention and traffic management, and gender-sensitive considerations in the design and implementation of safety measures, such as provision of safe access for women and vulnerable groups.

- Ensure contractors' responsibilities include preparing and implementing Contractor's ESMPs (C-ESMPs), maintaining grievance redress mechanisms (GRM) for contractors and subcontractors, workers, and conducting meaningful consultations with project-affected people and other relevant stakeholders, with particular attention to engaging women and other vulnerable groups.

- Include monitoring and reporting requirements for contractors to track environmental and social performance and submit progress reports regularly to the EA, including gender-related monitoring and reporting requirements under GAP. Prepare detailed drawings, technical specifications, detailed BOQ, cost estimation, Method of Measurement and other relevant documents needed for international bidding procedure.

- Develop Technical specifications with definition of used material and minimum workforce standards for all kinds of works, methodology for measuring works and payments.

- The BOQ, which is part of the Procurement Documents, will include relevant items for the implementation of activities envisaged by the ESMP.
- Specify provisions for protecting cultural heritage, engaging with Indigenous Peoples' concerns (if applicable) and complying with any commitments made under IPP if (applicable), and engaging with local communities throughout the Project implementation.
- Specify requirements for a community-based approach in rural road maintenance, including the development of a handbook, pilot programs, and training for local communities to participate in maintenance activities.
- Prepare ToR for construction supervision consultancy and/or Project Management consultancy for supervision as instructed by the Client.

B. TEAM COMPOSITION

94. **Input for Key and Non-Key Experts.** The consulting firm is expected to prepare their proposal with their own estimates based on the TOR requirements. All international Consultant should have experiences in development countries. Experience in the Southeast Asia countries, and/or Cambodia, would be preferred. All national key Consultant should have good command in English as well as the Khmer. Key experts will be evaluated based on the required qualifications and experiences. Non-Key experts and support staff are not rated/scored. The table below summarizes key and non-key specialists, as well as indicative person-months:

Table VI.1: Details Job Description for Key and Non-Key Experts

#	Position	International/ National	# of Staff	Indicative Person-Months
Key Specialists				
1	Team Leader	International	1	9
2	Senior Road Design Engineer	International	1	9
3	Senior Structural Engineer	International	1	9
4	Senior Road Pavement Engineer	International	1	6
5	Senior Geotechnical / Material Engineer	International	1	6
6	Senior Hydraulic/Hydrological Engineer	International	1	6
7	Cost / Quantity Engineer	International	1	6
8	Transport Economist	International	1	2
9	Social Specialist	International	1	5
10	Environmental Specialist	International	1	5
11	Procurement Specialist	International	1	4
12	National Senior Road Design Engineer / Deputy Team Leader	National	1	9
13	National Road Design Engineer	National	3	27
14	National Structural Engineer	National	3	27
15	National Hydrologist	National	3	27
16	National Geotechnical / Material Engineer	National	3	27
17	National Pavement Engineer	National	3	27
18	National Traffic Engineer	National	3	18
19	National Social Specialist	National	1	6
20	National Environmental Specialist	National	1	6
21	National Procurement Specialist	National	1	6
	Sub-Total			**247**
Non-Key Specialists				
22	National Road Safety Engineer	National	3	12
23	National GIS Specialist	National	1	9
24	National Cost Estimator	National	1	6
25	National Surveyor	National	1	6
26	National CAD Operators	National	6	39
	Sub-Total			**72**
Total Indicative Person-Months				**319**

95. **International Team Leader.** The Team Leader will be an internationally experienced engineer with holding degree in civil engineering with at least 15 years' experience in FS, planning, and detail design of rural infrastructure (road, bridge and drainage structure). The expert should have at least 10 years' experience as a Team Leader on leading similar projects and managing multi-disciplinary teams. The expert should have experience in implementing, preferably three projects funded by AIIB or other multilateral development agencies in Southeast Asia is preferred. The expert must have demonstrated ability to lead teams of international and national teams and create a strong working relationship with the executing agencies. Excellent communication (written and oral) skills and strong interpersonal skills will be considered an asset.

96. The Team Leader is responsible for the leadership of the Consulting team and effective communication with the Project Management Unit (PMU). The expert will be responsible for all aspects of the consulting services leading to the successful implementation of the consultant outputs for design and bidding phase and will have the following responsibilities:

- Lead and manage the entire consultant team for efficient project execution.
- Conduct desk review of existing reports and MRD road design standards.
- Prepare work plan, and project implementation plan.
- Review the preliminary engineering designs for each road and structure and prepare detail design engineering, cost estimates and bid documents suitable for AIIB financed procurement, also to assist in evaluation of bid.
- Responsible for overall project implementation and delivery of all aspects including but not limited to detailed FS report, detailed engineering designs (DED) for all required components.
- Responsible for signing off on the final project and infrastructure designs for all outputs.
- Oversee and guide the FS and detailed design process for all project components.
- Provide day-to-day advice and support to the team on the study as required by the clients.
- Identify potential risks and propose mitigation measures.
- Ensure compliance with environmental, social safeguard, relevant national regulations and standard.
- Oversee the preparation of technical reports and documentation for both FS and design phases.
- Prepare detailed feasibility report, and design engineering report for required components.
- Prepare findings, progress reports, and recommendations to the EA/AIIB.
- Prepare and implement a robust quality assurance process for technical deliverables.
- Ensure reports are delivered to the required quality and schedule.
- Ensure adherence to project quality assurance plan.
- Conduct regular reviews to ensure the highest standard of quality.
- Maintain liaison with MRD, including advising on key decisions relating to sub-project selection as the assignment moves forward.
- Provide guidance to the team to ensure that the work meets the required standards.

- Conduct field visits with the team at regular and appropriate times during study.
- Assist MRD with the updating as necessary the FS report, and detailed engineering design report.
- Provide on-the-job training to MRD staff administration and other aspects of professional engineering skills.

97. **International Senior Road Design Engineer.** The Senior Road Design Engineer will be an internationally experienced engineer with a degree in civil engineering-related field, with at least 15 years' experience on similar assignments. The expert should have experience, as the road design engineer, in rural road projects using asphalt/ DBST/ reinforced concrete pavement, and with extensive experience in the Southeast Asia countries. The expert must have good proficiency of English.

98. The expert's role is to be responsible for the leadership of the Consulting team and effective communication with the Project Management Unit (PMU). The expert will be responsible for all aspects of the consulting services leading to the successful implementation of the consultant outputs for design and bidding phase.

99. The expert's role is to supervise the preparation of DEDs of the project rural roads and the expert will undertake the following tasks:

- Administer and supervise site investigation and design and documentation activities for road improvement civil works contracts.
- Confirm detailed design guidelines and specifications in collaboration with MRD.
- Confirm classified traffic counts on the project roads together with an estimate of present and future traffic and axle loading as necessary for designing appropriate pavement structures.
- Coordinate necessary topographic surveys for design and documentation works; establish control points, benchmarks and reference beacons as required to prepare detailed engineering designs and to enable construction quantities.
- Review the need for road safety measures based on the findings of the road safety output and design the road safety features appropriately.
- Recommend specifications for road construction, considering as the best practice and apply any modifications that are essential.
- Prepare construction schedules showing anticipated progress of works and expenditures for the rehabilitation contract package. The schedules will reflect seasonal weather effects at work sites.
- Prepare practical and cost-effective pavement designs on the basis of condition surveys, projected traffic levels, pavement structure studies, and axle load considerations, as determined from activities above and from any previous studies.
- Prepare detailed engineering designs and bill of quantities, and calculate detailed cost estimates for civil works, broken down into foreign (direct and indirect) and local components as well as taxes and duties for improvement of works.
- Ensure deliverables comply with relevant MRD technical requirements, AIIB conditions and the terms of the assumptions in the cost benefit analysis.
- Ensure that the bid documents for project work include specific provisions to avoid resettlement and minimize disruption and/or damage to local settlements due to construction.

- Prepare contract drawings for the road works; including road plans, longitudinal profiles, cross-sections, and others for rehabilitation works. Road plans shall include all existing features; Preparation of pre-tender estimates for rehabilitation works.
- Preparation of road improvement bid documents.
- Preparation of tender documentation suitable for procurement under the AIIB Procurement Guidelines.
- Support MRD with the appraisal of road improvement bids as part of the bid evaluation process.
- Support MRD with the evaluation of the capacity of road improvement contractors.
- Coordinate on-the-job training to engineers appointed to the PMUs and project implementation units.

100. **International Senior Structural Engineer.** The Senior Structural Engineer will be an internationally experienced engineer with holding master's degree in civil engineering, and 10 years' experience on related assignments. The expert should have experience, as a structural engineer in road projects with bridges and drainages and with extensive experience in the Southeast Asian countries. The expert must have good proficiency of English.

101. The expert will undertake, but not be limited to, the following tasks:

- Inspect the existing structures and confirm those that require replacement, and any repairs required on structures.
- Work closely with the national hydrologist and materials engineer to determine adequacy of the structural design and foundation design.
- Prepare detailed design for the repair or replacement of existing structures or new construction as required.
- Prepare detailed design documentation suitable for procurement documents.
- Write detailed design report.

102. **International Senior Road Pavement Engineer.** The Senior Pavement Engineer will be an internationally experienced engineer with holding minimum bachelor's degree in civil engineering related field, preferable to 10 years' experience in road pavement design and supervision. The expert is responsible for designing the road pavement including design of pavement materials for asphalt/ DBST/ reinforced concrete and required test work; and propose modifications or revise design, if necessary. The expert should have extensive experience in the Southeast Asian countries The expert will work under the direct supervision of Design Coordinator/ Design Engineer. The expert must have good proficiency of English.

103. The main tasks of the expert will also include the following but not limited to:

- Review constructions detailed design and technical specifications.
- Review and analyze traffic load and vehicle configurations in conjunction with the pavement design review.
- Prepare report on road pavement design.
- Develop quality assurance system and quality control plan for provisions of asphalt/DBST/ reinforced concrete pavement or else.

104. **International Senior Geotechnical/Material Engineer.** The Senior Geotechnical/Material Engineer will be an internationally experienced engineer holding a master's degree in civil engineering, with at least 10 years' experience on related assignments. The expert must be fully experienced in the materials and process involved for the improvement of the rural roads including the use of unbound (aggregate and natural materials) hydraulically bound pavement materials and the use of bituminous surface treatments. The expert must also be fully experienced with materials selection and processing for cross drainage structures, and for bridge works and all other concrete works. The expert will be responsible for soil testing for earthworks and pavement, concrete mix design and testing of construction material, especially soil investigation for design of bridge foundation. Experience with materials used for paved roads and structures are essential. The expert should have extensive experience in the Southeast Asian countries. The expert must have good proficiency of English.

105. The expert will undertake the following tasks but are not limited to:

- Review existing information and conduct site visits, select potential materials sources and propose their usage for the detailed design.
- Work closely with the national materials engineer to ensure a suitable laboratory program to test materials as necessary for this stage of the project design.
- Establish a testing regime for the construction phase that complies fully with the range of materials that will be used for the project roads.
- Assist Senior Structural Engineer to design bridge foundation and other structures.
- Prepare geotechnical/material reports, foundation design reports.

106. **International Senior Hydraulic/Hydrological Engineer.** The Senior Hydraulic/Hydrological Engineer will be an internationally experienced engineer with a master's degree in civil engineering, and at least 10 years' experience on related assignments. The expert should have experience, as the hydraulic/hydrological engineer, in rural road and/or highway projects preferably with experience in Southeast Asia countries. The expert must have good proficiency of English. The expert is required to perform the following tasks but are not limited to:

- Review related documents and make it available for all concerned data, measure and advise on the adequacy of the existing drainage structures with respect to their position, alignment and capacity to ensure any deficiencies are detected and rectifications are included in the detailed design.
- Assist the Team Leader, Senior Road Engineer, and Senior Structural Engineer in the preparation of horizontal and vertical alignment, typical cross section and super-elevation.

107. **International Cost/Quantity Engineer.** The Cost/Quantity Engineer will be an experienced engineer holding a master's degree in civil engineering, with at least 8 years' experience on related assignments on the design of rural road project/ bridge projects and/or highway projects working in the capacity of the Cost/Quantity Engineer. The expert should have extensive experience preferably in Southeast Asia countries with a very good proficiency of English. The expert will report to the Team Leader and will be responsible for preparing detailed cost estimates of the detailed design of the Project which is suitable to the Procurement Documents.

108. **International Transport Economist.** The Transport Economist will be an internationally experienced engineer or economist holding a degree in engineering or transport economics with at least 10 years' experience (actual input) on the related assignments for rural road projects in this capacity. The expert should preferably have extensive experience in Southeast Asia countries with a very good proficiency of English.

109. The expert is required to perform, but are not limited to, the following tasks:

- Under the supervision of Team Leader during detailed design.
- Provision, researching and planning traffic studies and use specialized computer software to analyse the detailed design, as well as simulate the effects.
- Assembling data on revenue flows and benefits.
- Reviewing cost data for capital expenditure and operational and maintenance costs.
- Developing financial forecasts to assess the incremental impact of the investment on government O&M costs.
- Developing financial models to support investment appraisal decision making including the affordability of O&M costs.
- Prepare a financial assessment report chapter for the detailed design report.

110. **International Social Specialist.** The Social Specialist will be internationally experienced with holding minimum of bachelor's degree (Masters preferred) in social science or a related field, preferable minimum of 10 years relevant experience in community development and assessment of the social impacts of rural roads under the project in the Southeast Asian countries. The expert will have substantial experience of preparing land acquisition plans and resettlement action plans to the standards required by Cambodian law and international donor agencies.

111. The expert will undertake, but not be limited to, the following tasks:

- Collect socioeconomic data and information from existing sources and from field visits.
- Identify potential risks and impacts associated with land acquisition and involuntary resettlement of the proposed sub-projects and identify where detailed land acquisition plans or resettlement action plans will be needed, including number and type of affected end-users.
- Conduct regular consultations with affected households and other relevant stakeholders, including identified vulnerable groups.
- With the Road Design Engineer, identify potential road safety concerns and potential risk management measures.
- Compile data on the number and type of project beneficiaries, disaggregated by gender and age category.
- Prepare the Social Impact Assessment for each road including assessing vulnerability and propose measures to support vulnerable groups in the Project design, and to ensure they could benefit from the Project, and to ensure that ES risks and impacts are not adversely impacts on them. Prepare Land Acquisition Plans, Labor Management Procedure, Stakeholder Engagement Plan and other risk mitigation plans where needed.
- Work with the Road Engineer to assess road safety hazards and prepare road safety plans where needed.
- Work with the environment specialist to support the preparation of ESIA and other relevant E&S instruments.
- Provide on-the-job training to concerned MRD and PDRD staff on social safeguard related issues related to material sourcing, road implementation and site supervision.

112. **International Environmental Specialist.** The Environmental Specialist will be internationally experienced engineer with holding minimum of bachelor's degree (Masters preferred) in environment or related field, preferable minimum of 10 years' experience, have experience on WB, ADB or AIIB assisted projects, and demonstrate significant experience on environmentally sensitive areas in the Southeast Asia region.

113. With assistance from the national environmental specialist, the international consultant will be responsible for the following:

- Assist the Design Coordinator and the team, as required, in all matters related to environmental safeguard aspects for road design and preparation of procurement documents.
- Based on the project's ESMF, conduct Environmental screening and develop Environmental Management Plan (ESMP) in accordance with the World Bank's Safeguard Policy Statement (latest edition) and the AIIB - Cambodia specific Environmental and Social Framework (2018) and the ESMP Framework that set by the ESIA Consultant.
- Incorporate in the development of ESMP with the MRD and PDRD, as well as staff from the Social and Environmental Office (SEO).
- Assist the PMO that any potential adverse environmental impacts are minimized by implementation of the mitigating measures and monitoring program as detailed in the ESMP.
- Provide on-job training to concerned MRD and PDRD staff on environmental safeguard related issues related to material sourcing, road implementation and site supervision.

114. **International Procurement Specialist.** The International Procurement Specialist should have a master's degree in engineering or related field and at least five years of experience as a procurement specialist on similar infrastructure projects. The expert should have experience, as a Procurement Specialist for other AIIB or MDB financed project such as ADB, World Bank and JICA, and preferably with experience in Southeast Asia countries. The expert must have good proficiency in English.

115. The activities of expert include but are not limited to:

- The expert will assist the EA/AIIB in preparing the Procurement Documents for the rural roads project and supervise the evaluation of bids for one civil works package. This will be done using appropriate procurement methods and procedures, ensuring compliance with the AIIB Procurement Policy and Directive on Procurement Instructions for Recipients.
- In conducting the procurement process, the specialist will first prepare a detailed project delivery strategy (PDS) and procurement plan (PP) showing all the processes to be adhered to and all-time schedules, such that the process is entirely defined. It must also give guidance on what must not be done such that the procurement process could be placed in jeopardy.
- Assist MRD in monitoring the timeliness of the procurement and delivery of contract package in accordance with the approved PDS and PP. The specialist shall ensure the successful completion of procurement until contracting between the MRD and selected contractor/supplier/consultant within the agreed procurement timeline and input.

116. **National Senior Road Design Engineer/Deputy Team Leader.** The National Senior Road Design Engineer / Deputy Team Leader will be an experienced engineer with a master's degree or equivalent in civil/environmental engineering (or related discipline), and at least 10 years of experience in rural infrastructure including at least 8 years in project management/ supervisory role. The expert should have experience as road design engineer of road projects with asphalt/DBST/ reinforced concrete paving roads and also experience working with international organizations or external funded projects.

The national Senior Road Design Engineer will assist international Team Leader and the International Senior Road Design Engineer in the preparation of DEDs of the project roads. Also, the expert should have previous experience on infrastructure projects financed by the AIIB or other MDBs. A good command in English (written and oral) will be considered an asset.

117. The expert is to support international experts to undertake the following tasks:

- Desk review of existing reports
- Assist the Team Leader to lead and guide the entire project team and organize and manage all the project activities for all the projects tasks and components.
- Provide technical guidance and support to the consultant team in the absence of the Team Leader.
- Act as a key liaison between the project team and stakeholders, including clients, government agencies, and local communities.
- Contribute to the identification and assessment of project risks. Assist in developing risk mitigation strategies and contingency plans.
- Represent the Consultant's team in meeting and be responsible for all the tasks assigned to the Consultant under the assignment.
- Responsible for project deliverables, schedule and budget.
- Coordinate necessary topographic surveys for design and documentation works; establish control points, benchmarks and reference beacons as required to prepare detailed engineering designs and to enable construction quantities.
- Confirm classified traffic counts on the project roads together with an estimate of present and future traffic and axle loading as necessary for designing appropriate pavement structures.
- Ensure deliverables comply with relevant MRD technical requirements, AIIB conditions and the terms of the assumptions in the cost benefit analysis.
- Coordinate on-the-job training to engineers appointed to the PMUs and project implementation units.
- Coordinate with E&S Specialist to ensure E&S considerations are applied in road design and construction
- Prepare all documents, outputs & deliverables, and reports for the positions as required in TOR.

118. **National Road Design Engineer (3 persons).** The National Road Design Engineer with a degree in civil engineering related field with a minimum of 8 years' experience will be required. The expert should have experience as road design engineer of road projects with asphalt/DBST/ reinforced concrete paving project and also experience working with international organizations or external funded projects. Duties as the road design engineer will be undertaken to assist international design engineer in the preparation of the detailed design. The national Road Design Engineer's role is to assist the International Senior Road Design Engineer in the FS and prepare the DED for the project rural roads.

119. The expert will undertake, but not be limited to, the following tasks:

- Coordinate necessary topographic surveys for design and documentation works; establish control points, benchmarks and reference beacons as required to prepare detailed engineering designs and to enable construction quantities.

- Confirm classified traffic counts on the project roads together with an estimate of present and future traffic and axle loading as necessary for designing appropriate pavement structures.
- Carry out the detailed design by Civil 3D with the assistance of the CAAD operators.
- Review the need for road safety measures based on the findings of the road safety output and design the road safety features appropriately.
- Prepare practical and cost-effective pavement designs on the basis of condition surveys, projected traffic levels, pavement structure studies, and axle load considerations, as determined from activities above and from any previous studies.
- Prepare detailed engineering designs and bill of quantities, and calculate detailed cost estimates for civil works, broken down into foreign (direct and indirect) and local components as well as taxes and duties for improvement of works.
- Ensure deliverables comply with relevant MRD technical requirements, AIIB conditions and the terms of the assumptions in the cost benefit analysis.
- Prepare contract drawings for the road works; including road plans, longitudinal profiles, cross-sections, and others for rehabilitation works. Road plans should include all existing features; Preparation of pre-tender estimates for rehabilitation works.
- Coordinate on-the-job training to engineers appointed to the PMUs and project implementation units.

120. **National Structural Engineer (3 persons).** The National Structure Engineer with a degree in civil engineering related field and preferable to 8 years' project-related experience on similar projects. The expert should have project experience of design of bridge and structure of rural road projects with asphalt/ DBST/ reinforced concrete pavement and also experience working with international organizations. The national Structural Engineer will work in close collaboration with the international Senior Structural Engineer and is expected to be fully competent to independently undertake all aspects of the work.

121. The expert will undertake, but not be limited to, the following tasks:

- Assist the Design Coordinator and the international Structural Engineer, as required, in all matters related to structurally connected project implementation (design, resilience to natural hazards, road safety, etc.).
- Provide preliminary design for culverts and bridges as agreed with the Senior Structure Engineer for basis for discussion and decision for MRD.
- Provide detailed designs and shop drawings of bridges, culverts and all ancillary structures, and propose improvements.
- Assist in estimating the required quantities and costs for each of the designed structures and provide data and specifications in preparation for civil works contracts.
- Assist in the preparation of Reports on relevant topics related to structures.

122. **National Hydrologist (3 persons).** The National Hydrologist should have a master's degree in water resources engineering/hydrology or a related field with at least 8 years of experience in the field of hydrology related to infrastructure design, surface water hydrological studies and hydraulic design for rural roads cross drainage structures, as well as experience of drainage design for other types of infrastructure facility.

123. The expert will undertake, but not be limited to, the following tasks:

- Work closely with international and national structural engineers, and road design engineers.
- Conduct a desk study of available hydrological data and relevant reports on water resources in Cambodia and in the project target areas that use to design for hydraulic structures.
- Conduct analysis of rainfall, stream flow, surface water runoff and river morphology at the sub-project locations; Prepare hydraulic designs for cross drainage structures.
- Prepare hydrology and hydraulic design reports of structures (pipe and box culverts, bridges, side drains) of all project roads; and
- Identify overflow section as per the hydrological data over the past 10 years and climate change assessment.

124. **National Geotechnical/Material Engineer (3 persons).** The National Geotechnical/Material Engineer should have a degree in civil engineering related field and at least 8 years of experience in the materials and process involved in improvement of roads using unbound (aggregate and natural materials) and/or bound pavement materials, asphalt/ DBST/ reinforced concrete pavement. The engineer will assist the international Senior Geotechnical/Material Engineer and is expected to be fully competent to independently undertake all aspects of the work.

125. The expert will undertake, but not be limited to, the following tasks:

- Review existing information and conduct site visits, select potential materials sources and propose their usage for the detailed design.
- Work closely with the international materials engineer to ensure a suitable laboratory program to test materials as necessary for this stage of the project design.
- Establish a testing regime for the construction phase that complies fully with the range of materials that will be used for the project roads.
- Assist Bridge Engineer to design bridge foundation and other structures.
- Prepare materials/geotechnical reports, foundation design reports.

126. **National Pavement Engineer (3 persons).** The National Pavement Engineer must have a master's degree in civil engineering related field, preferably to 15 years' experience in road pavement design and supervision. The engineer is responsible for designing the road pavement including design of pavement materials for asphalt/DBST/reinforced concrete and the required testing; and propose modifications or revise design, if necessary. The expert should have extensive experience in the Southeast Asian countries. The engineer will work under the supervision of DTL. The expert must have good proficiency of English.

127. The main tasks of expert will also include the following but not limited to:

- Review constructions detailed design and technical specifications.
- Review and analyze traffic load and vehicle configurations in conjunction with the pavement design review.
- Prepare report on road pavement design; and
- Develop quality assurance system and quality control plan for provisions of asphalt/DBST/ reinforced concrete pavement or else.

128. **National Traffic Engineer (3 persons).** The National Traffic Engineer will be an experienced engineer holding a master's degree in engineering, preferable with at least 5 years' experience (actual input) on the related assignments with rural road projects and has very good proficiency of English. The expert will work under the supervision of Deputy Team Leader during detailed design. The main tasks of experts will include but not limited to providing, researching and planning traffic studies including collecting data on road construction, land development, traffic signs and use specialized computer software to analyze the detailed design, as well as simulate the effects of using different materials or signs.

129. **National Social Specialist (1 person).** The National Social Specialist will have a bachelor's degree in social science or a related field with a minimum of 10 years' relevant experience in community development and assessment of the social impacts of rural roads under the project. He/she will have substantial experience of preparing land acquisition plans and resettlement action plans to the standards required by Cambodian law and international donor agencies.

130. The expert will undertake, but not be limited to, the following tasks:

- Collect socioeconomic data and information from existing sources and from field visits.
- Identify potential risks and impacts associated with land acquisition and involuntary resettlement of the proposed sub-projects and identify where detailed land acquisition plans or resettlement action plans will be needed, including number and type of affected end-users.
- Conduct consultations with vulnerable groups, affected households and other relevant stakeholders.
- Conduct screening of selected roads to prepare safeguard documents necessary for procurement documents.
- With the Road Design Engineer, identify potential road safety concerns and potential risk management measures.
- Compile data on the number and type of project beneficiaries, disaggregated by gender and age category.
- Prepare the Social Impact Assessment for each road. Prepare Land Acquisition Plans and other risk mitigation plans where needed.
- Work with the Road Engineer to assess road safety hazards and prepare road safety plans where needed.
- Lead the development of strategy and materials for people-centered design approach for the design of pilot roads to be selected by MRD.

131. **National Environmental Specialist (1 person).** The National Environmental Specialist should have a bachelor or higher degree in environmental management and at least 10 years of relevant experience in road planning and implementation projects. The Environmental Specialist will also be responsible for the support of the Social and Environmental Office (SEO) at MRD and the Environmental and Social Safeguard individual Consultant. The SEO unit and Consultant will work in close association with the Ministry of the Environment (MOE). The expert will assist in the following, but not limited to:

- Assist the Design Coordinator and the team, as required, in all matters related to environmental safeguard aspects for road design and preparation of procurement documents
- Conduct screening of selected roads to prepare safeguard documents necessary for procurement documents

- Based on the project's ESMF, conduct environmental screening and develop Environmental and Social Management Plan (ESMP).
- Incorporate in the development of ESMP with the MRD and PDRD, as well as staff from the Social and Environmental Office (SEO).
- Assist the PMO that any potential adverse environmental impacts are minimized by implementation of the mitigating measures and monitoring program as detailed in the ESMP.
- Provide on-the-job training to SEO staff, concerned MRD and PDRD staff on environmental safeguard related issues related to ESF instrument preparation, material sourcing, road implementation and site supervision and reporting.

132. **National Procurement Specialist (1 person).** The National Procurement Specialist will have a degree in business administration, procurement (or related discipline), with at least 10 years general working experience with 8 years of experience in procurement document management. The expert should have previous experience on infrastructure projects financed by AIIB or other multilateral development agencies. Good command in English (written and oral) will be considered an asset. The expert is to support international experts to:

- Support the PMU in the procurement of civil works, equipment, consulting services, and other contracts to implement the project. Assist the PMU in preparing the necessary bid documents required for local and international competitive bidding. The bid documents will include instruction to bidders, general and special conditions of contract, technical specifications, bills of quantities, tender drawings, and forms of contract.
- Assist the PMU in evaluating bid proposals and preparing bid evaluation report, contract, negotiations with the successful bidders and preparing contract documents for all outputs.
- Provide inputs for training and capacity development, coordinate with other team specialists.
- Assist the PMU in establishing capacity to accomplish all procurement in accordance with the Royal Government of Cambodia and AIIB policies and procedures.
- Provide technical input to prepare preliminary and detailed procurement plan.
- Prepare all documents, outputs & deliverables, and reports for the positions as required in TOR.

133. **National Road Safety Engineer (3 persons).** The National Road Safety Engineer should have at least 8 years' experience in road safety engineering, including identification and treatment of black spots, road safety monitoring and evaluation, conducting road safety audits, development and implementation of traffic and road safety engineering schemes and management systems. The engineer must have knowledge of engineering road safety measures and must have demonstrated knowledge of safety effects of engineering countermeasures, proper placement and use of signs, pavement markings, and roadside hardware.

134. **National GIS Specialist (1 person).** The National GIS Specialist should have university degree in GIS, remote sensing, environmental science, natural resource management or related field and have at least 5 years' experience of relevant work experience in GIS mapping and remote sending, geospatial mapping and analysis, and/or land use/ land cover mapping and monitoring.

135. **National Cost Estimator (1 person).** The National Cost Estimator will be an experienced engineer with a degree in civil engineering related field, preferable to 5 years' experience for the related assignment. The expert should have experience, as a Quantity/Cost Engineer, in road projects of asphalt/ DBST/ reinforced concrete paving. The expert's responsibilities will include but are not limited to:

- Prepare detailed cost estimates of the detailed design of all Project roads.
- Prepare detailed cost estimates including bills of quantities of civil works contract packages.
- Assist preparing contract drawings for the road works, including road plans, longitudinal profiles, cross-sections, and others for rehabilitation works.

136. **National Surveyor (1 person).** The National Surveyor shall have at least a degree in Civil Engineering and shall have a minimum of 5 years of experience in the field of survey and design in road infrastructure projects. The tasks of the Surveyor for the detailed design of the sub-projects include, but not necessarily be limited, to the following:

- Review all relevant design data and relevant maps, benchmark documentations, surveys, satellite images in connection with the design of the project's components.
- Prepare and conduct a detailed terrestrial road survey including all relevant infrastructure (existing gullies, culverts, bridges, etc.), buildings and structures within the right of way, information on flood heights, rural electrification poles, etc., using either DGPS or traditional terrestrial survey following the national or if not applicable international standards.
- Based on the results of the detailed terrestrial survey prepare preliminary road design in AutoCAD (or equivalent) as basis for discussion with MRD, PDRD, and the AIIB, as well as with local stakeholders.
- Prepare design computations and working drawings in AutoCAD (or equivalent) for the road stretches incorporating information on other infrastructure, buildings within the right of way, and on levels from recent floods and design floods based on input from the Senior Flood Modelling / Risk Management Specialist (I-8) and submit to MRD for their record and approval.
- Consider strengthening the road design against natural hazards and impacts by climate change by e.g., incorporating bioengineering methods.
- Review in detail quantities of the infrastructure construction works for each specific road section and report to MRD and the team, in particular the Quantity / Cost Estimator Engineer.

137. **National CAD Operators (6 persons) - (non-key).** The National CAD Operators must have a degree in civil/hydraulic engineering with a minimum of 5 years' experience. They should have experience in creating detailed designs of road and bridges and also experience working with international organizations or external funded projects. Duties as the CAD Operators will be undertaken to assist road design engineer in the preparation of the detailed design drawings, quantities and cost estimation.

C. DELIVERABLES

138. The consulting firm is required to prepare as follows:

No	Report	Timeline (Months from Contract Signing)	Nos. of Copies	
			MRD	AIIB
1	Inception Report	1	3	1
2	Draft FS Reports and ESMPF, RPF, IPPF	2	3	1
3	FS Reports and ESMPF, RPF, IPPF	3	3	1
4	Draft DED Reports, PDS and PP	6	3	1
5	Draft Procurement Documents	7	3	1
6	Final DED Reports	9	3	1
7	Final Procurement Documents	9	3	1

139. The Consultant shall conduct at least two workshops to present the results to the relevant stakeholders, one for FS and another one for DED. The consulting firm shall agree with relevant lines / agencies of the contract documents and incorporate their comments as necessary.

140. The duration for each phase is as follows:

- FS and Preliminary Design: 3 months
- DED: 6 months
- Total Duration: 9 months

D. ANNEX 1.

Attachment III-1: Map of Selected Roads in Six Provinces

Overall Map

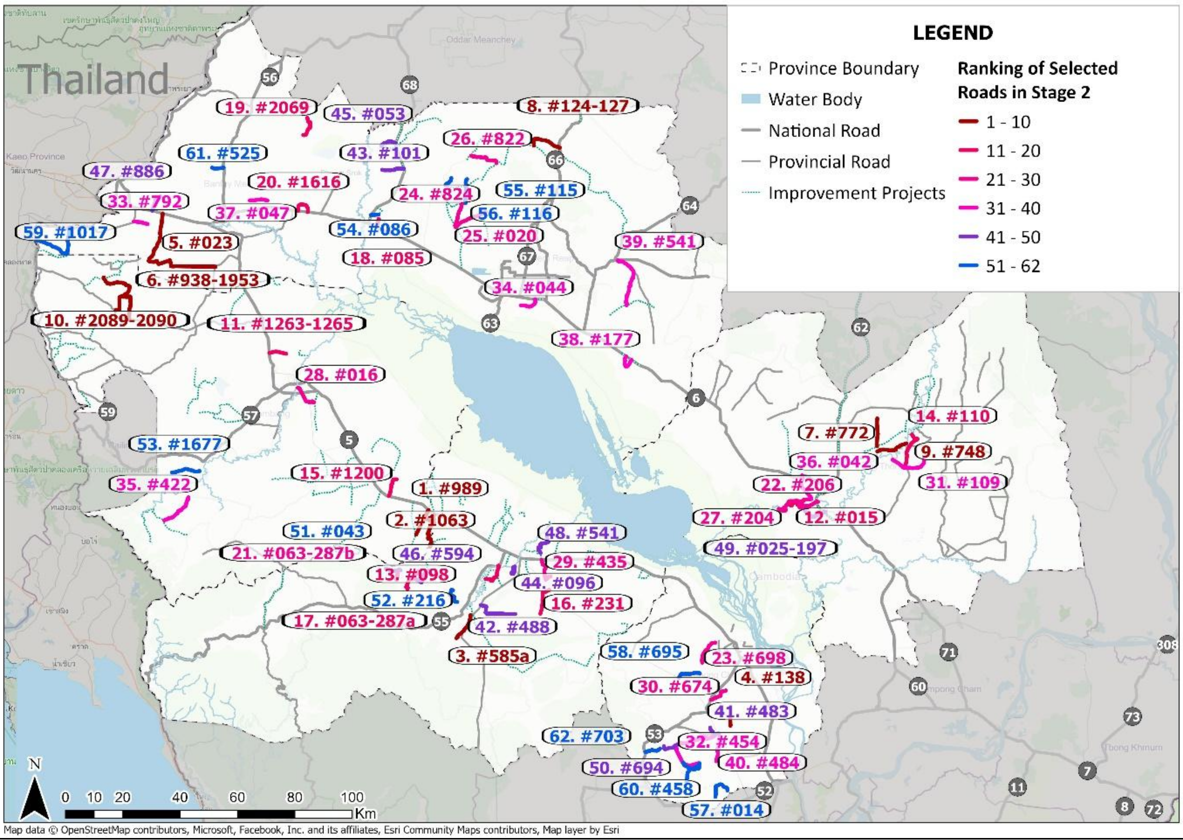


Figure VI.1: Overall of Selected Road Segments in Six Provinces

Maps of Selected Roads by Province

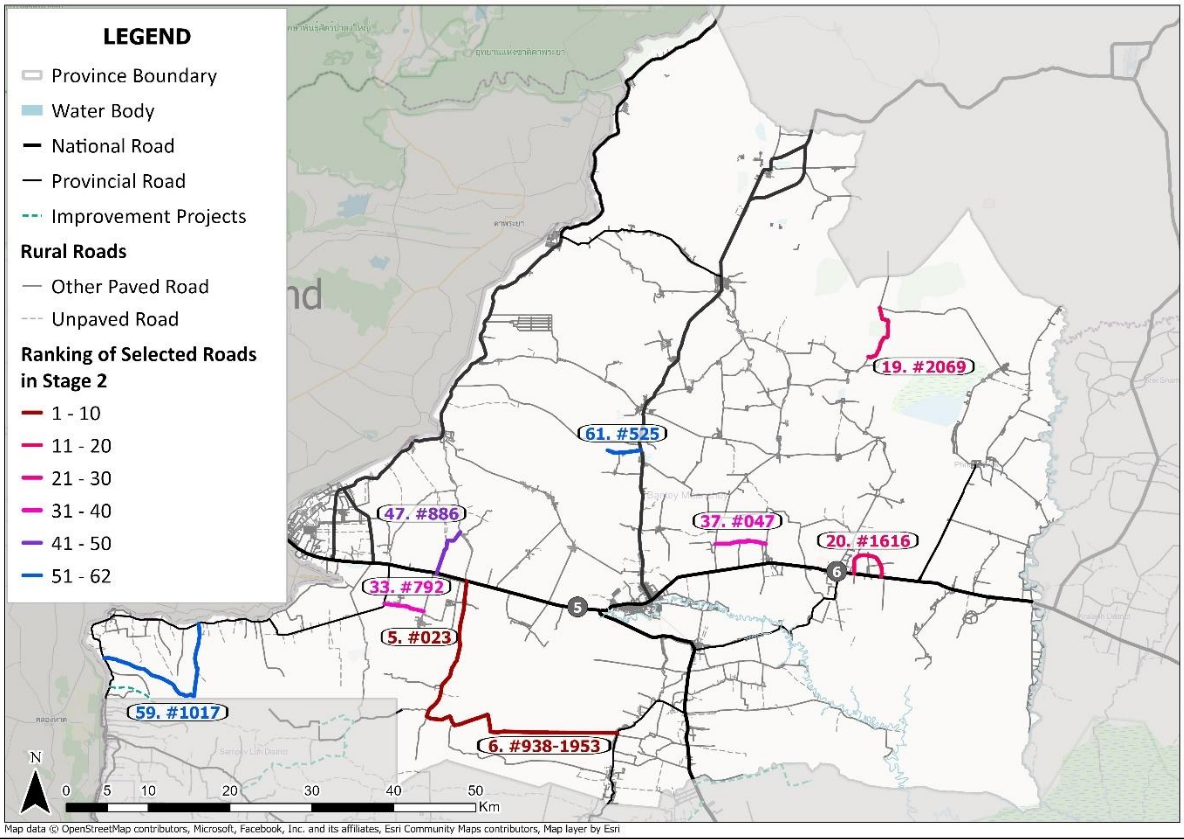


Figure VI.2: Selected Road Segments in Banteay Meanchey

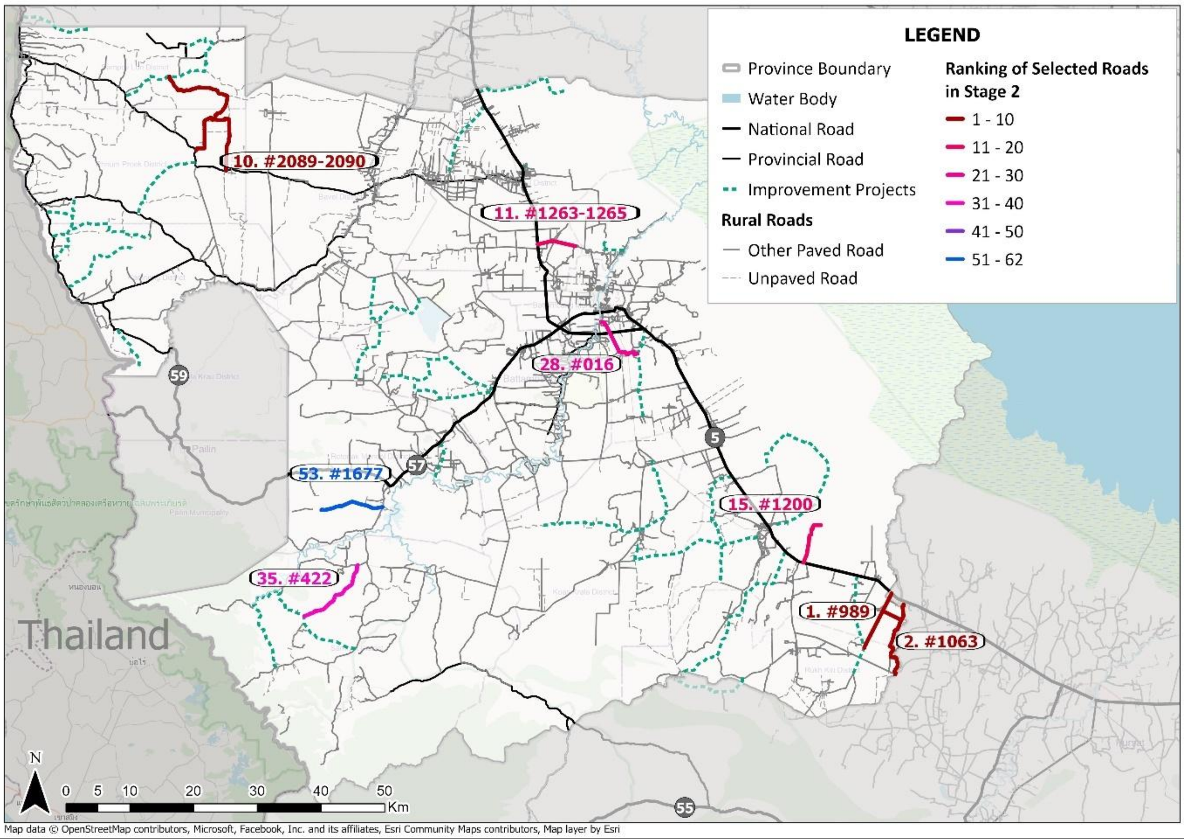


Figure VI.3: Selected Road Segments in Battambang

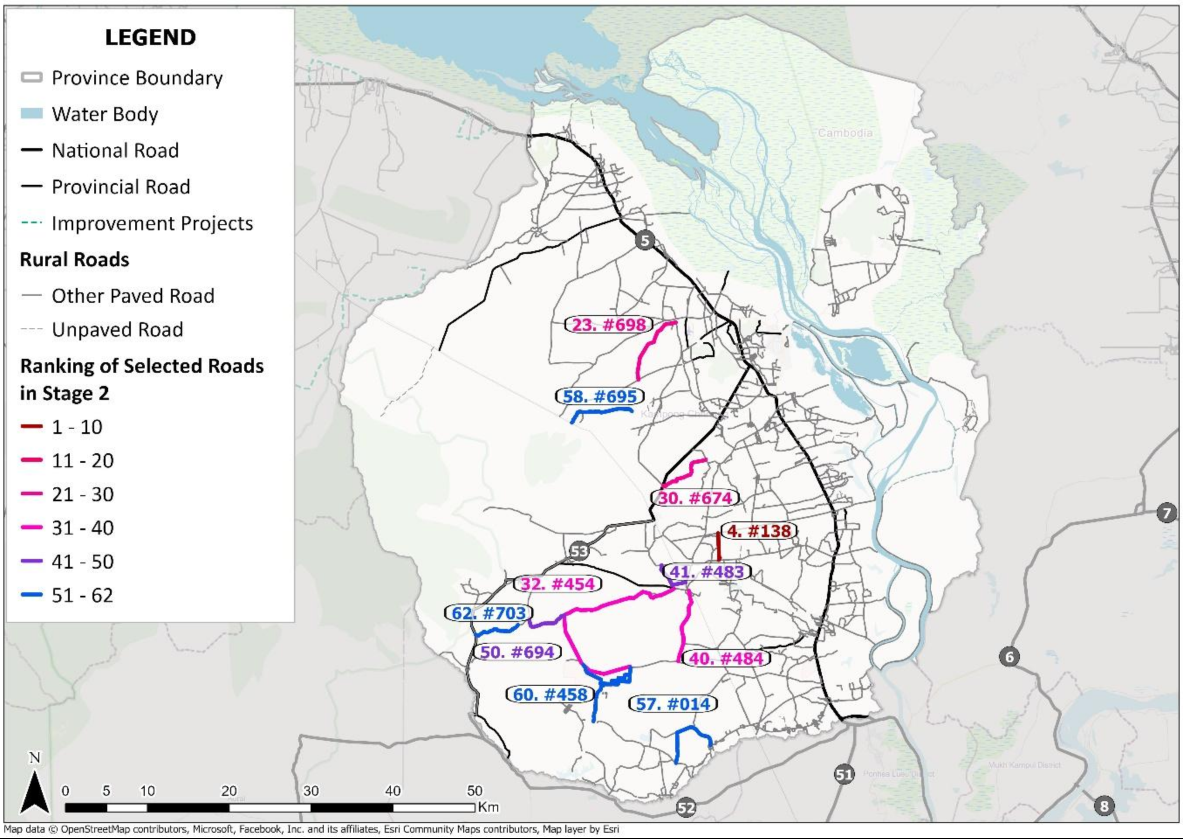


Figure VI.4: Selected Road Segments in Kampong Chnang

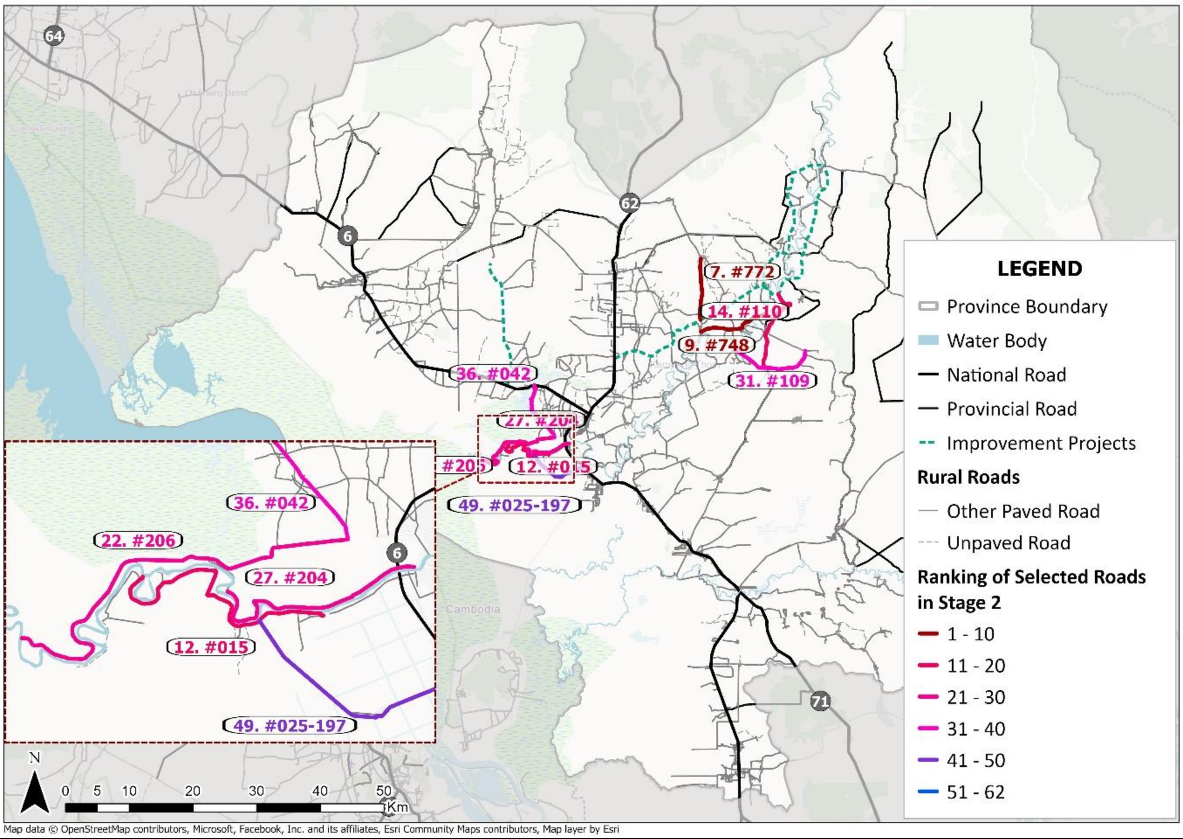


Figure VI.5: Selected Road Segments in Kampong Thom

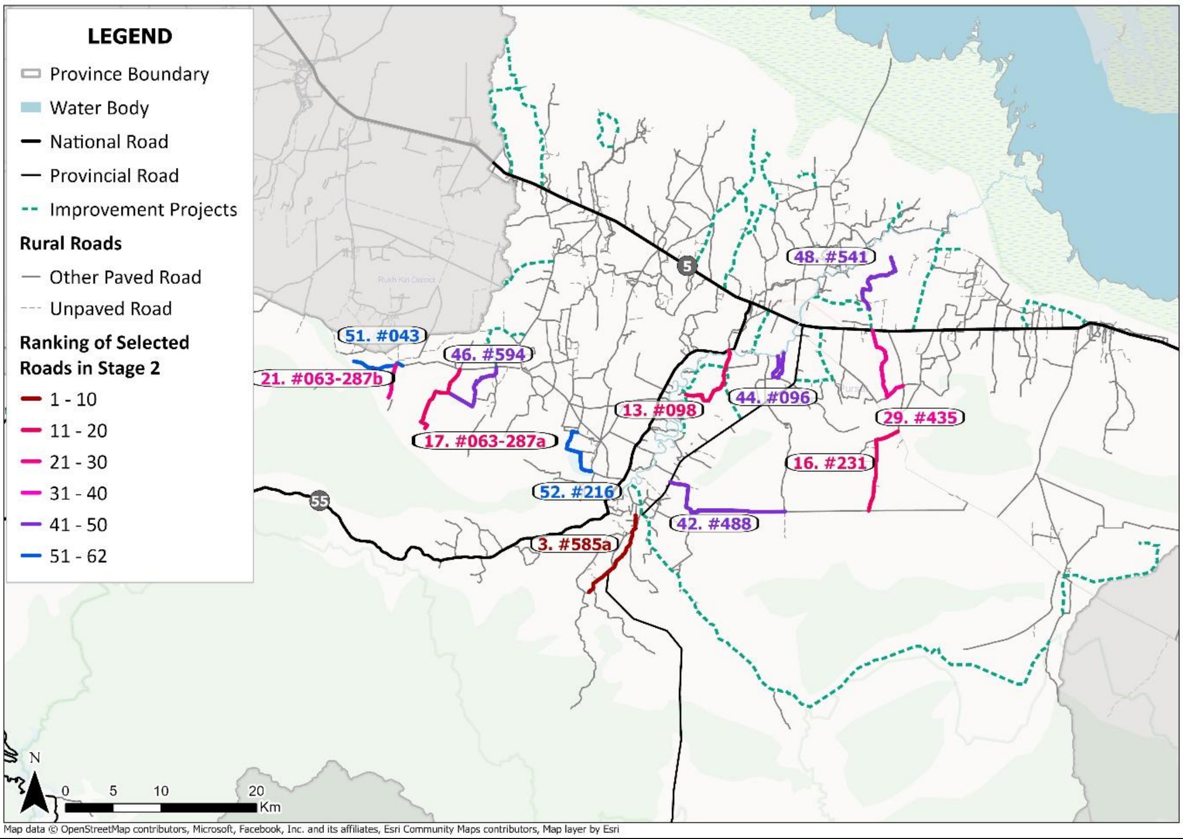


Figure VI.6: Selected Road Segments in Pursat

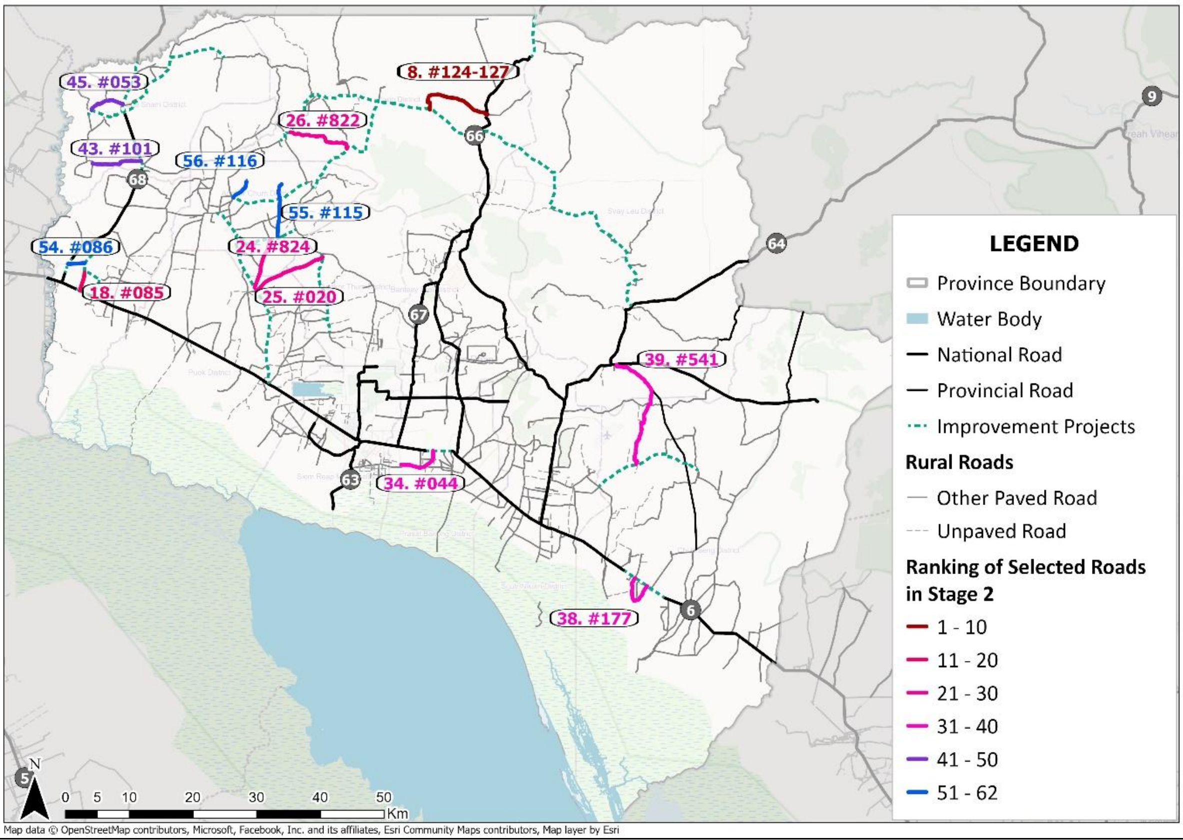


Figure VI.7: Selected Road Segments in Siem Reap

Attachment III-2: Detailed Information on The Selected Roads

#	Province	Road ID	Road Name	Road Length (km)	Road Width (m)	Existing Road Condition	Existing Surface Type	Flooding Risks: Road Length Damaged by Flood (m)	Flooding Risks: How frequent is the road segment flooded? (Time(s)/Year)
1	Banteay Meanchey	023	Takong	17.9	7	Poor	Laterite	1000	-
2	Banteay Meanchey	2069	Prasat Vean	8.1	7	Fair	Laterite	0	0
3	Banteay Meanchey	047	Samraong Thum	6.4	5	Fair	Laterite	0	0
4	Banteay Meanchey	1616	Tep Kaosa	7.3	5	Poor	Laterite	0	0
5	Banteay Meanchey	1017	O chrov- O Sampor	21.6	5	Poor	Laterite	0	0
6	Banteay Meanchey	792	Tmatpong	5	5	Poor	Laterite	0	0
7	Banteay Meanchey	525	Sla kram	4.3	5	Fair	Laterite	0	0
8	Banteay Meanchey	886	Thmor Sen	6.4	5	Fair	Laterite	0	0
9	Banteay Meanchey	938-1953	Cheng Meng-saisamon	26.6	5&7	Poor	Laterite	4000	-
10	Battambang	2089-2090	National Road No.57B To Wat Phum Damnak Beng-Thlok Sangke Village to Bossam Village	34.3	8&5	Fair	Laterite	4400	Once per year
11	Battambang	1200	National Road No.5 (Prey Svay) To Kor Village	7.6	4	Poor	Gravel	2500	Once per year
12	Battambang	1263-1265	National Road No.5 To Wat Tros (Prey Toteung Village)	7	4	Fair	Gravel	3000	Once per year
13	Battambang	422	Chrap Krahorm Village to Samlot Commune Market	12.8	5	Poor	Laterite	3000	Once per year
14	Battambang	1677	Teuk Sap village To Krachab village (Pailin)	10.1	5	Poor	Laterite	2000	Once per year
15	Battambang	016	Vat Borspo to Samrong Kong Toul Lveang	9.6	5	Fair	DBST	200	Once per year
16	Battambang	1063	Toul Snoul village to Boeung Prey village (7Measa canal)	13.7	4	Poor	Soil	2000	Once per year
17	Battambang	989	Yeun Mean south village to Yeun Mean north village	13.1	4	Poor	Soil	3000	Once per year
18	Kampong Chhnang	484	Chumteav Chreaeng- Tramoung Chrum	9.2	5	Poor	Laterite	0	0
19	Kampong Chhnang	454	Khsach Sa-Krang Lvea	29	5	Poor	Laterite	0	0
20	Kampong Chhnang	483	Sampan-Thlok Roleung	4.6	5	Poor	Laterite	0	0
21	Kampong Chhnang	674	Veal Sbov-Tang Krasang	7.2	5	Fair	Laterite	0	0
22	Kampong Chhnang	698	Phlov Koua-Boeung Veaeng	9.4	5	Fair	Laterite	0	0
23	Kampong Chhnang	694	Rolong-Sambok Kreal	5.6	5	Poor	Laterite	0	0
24	Kampong Chhnang	695	Krang Skear Tboung-Khleng Por	8.4	5	Fair	Laterite	0	0
25	Kampong Chhnang	703	Rolong-Road 53	5.9	5	Poor	Laterite	0	0
26	Kampong Chhnang	014	Trapeang Mtes-Prey Nheam	9.3	5	Poor	Laterite	0	0
27	Kampong Chhnang	458	Daeum Chambak-Kdol Senchey	18	5	Poor	Laterite	0	0
28	Kampong Chhnang	138	Bakchak-Khnar Chhmar	5	4	Poor	Laterite	0	0
29	Kampong Thom	015	Prek Sbov-Koah Krobbay	10.6	5	Fair	Laterite	2500	Once per year
30	Kampong Thom	110	Baksrei-Tomnob	15.2	5	Fair	Laterite	1000	Once per year

#	Province	Road ID	Road Name	Road Length (km)	Road Width (m)	Existing Road Condition	Existing Surface Type	Flooding Risks	
								Road Length Damaged by Flood (m)	How frequent is the road segment flooded? (Time(s)/Year)
31	Kampong Thom	025-197	Kampong Samraong-Rollors-OuKanthor	10	5	Fair	Laterite	500	Once per year
32	Kampong Thom	206	KdeiDoung-Ou taSek	15.4	5	Fair	Laterite	2000	Once per year
33	Kampong Thom	042	KdeiDoung-Prey Preal	10.25	5	Good	Laterite	0	Less than once per year
34	Kampong Thom	204	Steung Sen-Ou Sambuor	8.7	5	Fair	Laterite	500	Once per year
35	Kampong Thom	748	Kampong Chheu Teal-Kamping Takong	11.3	5	Fair	Laterite	8000	Once per year
36	Kampong Thom	109	Tuek Andoung-Thmei	13.8	5	Fair	Laterite	1000	Once per year
37	Kampong Thom	772	Kampong Chheu Teal-Koun Kaek	9.7	5	Fair	Laterite	2000	Once per year
38	Pursat	585a	O'Da	10.238	6	Poor	Laterite	6500	2-3 times/year
39	Pursat	231	PhumeTmei-PhumeKomreing	10.2	5	Poor	Laterite	350	Once per year
40	Pursat	098	PhumeSvaymeas	9.4	4.5	Poor	Laterite	150	Less than once per year
41	Pursat	488	Prongil-Say-Komreing	15	5	Poor	Laterite	2500	2-3 times/year
42	Pursat	594	Tmei-Tangkork	9.3	5	Fair	Laterite	1500	2-3 times/year
43	Pursat	063-287a	PhumeSamsan-Brohal-Tangkork	8.9	5	Fair	Laterite	600	2-3 times/year
44	Pursat	063-287b	PhumeSamsan-Brohal-Tangkork	3.5	5	Fair	Laterite	600	2-3 times/year
45	Pursat	216	Botromdul-Tlokdongko	7	5	Fair	Laterite	0	0
46	Pursat	096	LoloksorJas-Roleab	6.1	5	Fair	Laterite	600	Less than once per year
47	Pursat	435	KnorngPorpool	10.2	5	Poor	Laterite	4600	Once per year
48	Pursat	043	Brohal-TomnobYeayrim	5.5	5	Poor	Laterite	2500	Once per year
49	Pursat	541	Keomony-Ptaskor	9.2	4	Poor	Laterite	4200	2-3 times/year
50	Siem Reap	822	Our-Bay Dot	10.5	5	Fair	Laterite	0	0
51	Siem Reap	124-127	Lvear-Srae Samot-Prey Khnul	12.8	5	Fair	Laterite	0	0
52	Siem Reap	101	Moung Cheung-Neang Sroung	8	6	Fair	Laterite	0	0
53	Siem Reap	115	Kchar-Brasat Trav	8.7	5	Fair	Laterite	0	0
54	Siem Reap	824	Chhuk-Brasat	11.9	5	Fair	Laterite	0	0
55	Siem Reap	541	Chub Smach-Beung Mealae	20.6	6	Fair	Laterite	0	0
56	Siem Reap	177	Kok Romeas-Domrei Chhlorng	7	5	Fair	Laterite	0	0
57	Siem Reap	116	Kchas-Roka	3.9	5	Fair	Laterite	0	0
58	Siem Reap	053	Chrouy -Prey	5.6	5	Fair	Laterite	0	0
59	Siem Reap	085	Ta Chraeng-Chhuk Rot	3	5	Fair	Laterite	0	0
60	Siem Reap	086	Kouk Tnort	3	5	Fair	Laterite	0	0
61	Siem Reap	020	Trey Nhor-Lbeuk	8.1	5	Poor	Laterite	0	0
62	Siem Reap	044	Kandek-Bakong	6.8	5	Fair	Laterite	0	0

VII. TERMS OF REFERENCE FOR ESIA

A. GENERAL

141. The Ministry of Rural Development (MRD) is the Executing Agency (EA) of the Project and is responsible to manage the environmental and social risks and impacts associated with the Project. The EA has established at the Ministry level a new project management unit (PMU) to manage the implementation of the Project, including coordination, planning, financial management, procurement and monitoring and evaluation. It will also be responsible for overall guidance and policy advice, internal coordination, discussion and resolution of Project matters with counterparts in the Ministry and other government agencies, donor alignment and harmonization, and public disclosure and civil society involvement.

142. PMU's Environmental, Social and Gender Officers, with technical support from the Consultant, are responsible for providing quality assurance for all E&S documents and ensuring that E&S and gender requirements are incorporated into all tender and contract documents.

143. The MRD has also established province level project implementation units (PIUs) in the Provincial Department for Rural Developments in six targeted provinces. PIUs will provide assistance to the consultancy team (FS & DED, ESIA) during the project design phase to ensure that all procedures are followed for the preparation of the required E&S documents and during the civil works, including the warranty period, to ensure full compliance with the environmental and social safeguard provisions of the ES documents.

144. On land acquisition and resettlement activities, the General Department of Resettlement (GDR) in the Ministry of Economy and Finance (MEF), is the main agency responsible. The GDR will be responsible for the monitoring and reporting of the implementation of the land acquisition and resettlement activities, if any. The PMU will be responsible for monitoring all aspects relating to voluntary donations except safeguard matters related to land acquisition through negotiated settlement.

B. OBJECTIVES OF ESIA ASSIGNMENT

145. The MRD is seeking to appoint an Consultant to develop E&S Studies, comprised of an ESIA covering the six (6) provinces, and Environmental & Social Management Plans (ESMPs) for each of the six (6) provinces under the Project; Resettlement Policy Framework (RPF); Indigenous Peoples Planning Framework (IPPF), if required; and other relevant assessments and plans needed to meet country E&S requirements, AIIB ESF, Good International Industry Practices (GIIP) , and other relevant E&S standards (see section 3.4 below).

146. An ESMPF will be developed for future similar projects that are funded by AIIB loan.

147. The following are the specific objectives of the assignment:

- To prepare an ESIA alongside the ESMPs (six total) with risk management measures specific to each province with road segments already identified.
- To identify the potential resettlement and loss of livelihood issues that each project activity will likely generate, and prepare respective plans such as RPF, IPPF (if required) and other relevant E&S instruments if applicable.
- To conduct stakeholder analysis of the project and prepare a Stakeholder Engagement Plan (SEP)
- To conduct a gender assessment and prepare a Gender Action Plan (GAP) to mitigate the adverse impacts and promote inclusion/equality for benefit-sharing for women and men. To assess related climate change risks and impacts of the project components including: 1) greenhouse gases (GHGs)

emissions, 2) the alignment of the project with the mitigation and adaptation goals of the Paris Agreement on climate change, and 3) climate finance calculations.

- To prepare an ESMPF for future rural road projects that are funded by AIIB loan.

148. The E&S Instruments shall be developed under the supervision of the PMU and PIUs of respective provinces with prior review and approval of AIIB.

149. The detailed tasks of this assignment are elaborated in the following section.

C. KEY TASKS AND DELIVERABLES.

150. Below is the list of tasks of the Consultant, further detailed in the following paragraphs:

- Project Inception and Workplan
- Prepare ESIA Scoping Report
- Prepare ESIA
- Prepare ESMPs (six total)
- Prepare Stakeholder Engagement Plan (SEP)
- Consultations and Information Disclosure
- Prepare Grievance Redress Mechanism (GRM)
- Prepare ESIA Standalone Non-Technical Summary (NTS)
- Prepare Gender Action Plan (GAP)
- Prepare RPF (RAP if applicable)
- Prepare IPPF, where required
- Prepare ESMPF for future projects

Task 1: Project Inception and Workplan

151. The PMU will schedule a Project Kick-off Meeting to introduce the Consultant team, discuss planning arrangements and respond to questions regarding the Project from the Consultant. This meeting might be held in a video-conference call or in person. The PMU and PIUs will also provide available Project documents to the Consultant.

152. Right after the kickoff meeting, the Consultant team shall use the inception period to mobilize team members and resources needed in accordance with its Work Plan and familiarize with the project details, including:

- Study the project information to appreciate the context within which the ESIA shall be carried-out,
- Identify the sources of secondary information on the project, on similar projects and on the project area,
- Select sample locations and carry out a reconnaissance survey

153. The study team shall also recognize that due care and diligence planned during the inception stage helps in improving the timing and quality of the ESIA reports.

154. **Deliverables:** The Consultant shall submit the Inception Report comprising of work plan, timelines, and field survey methodology.

Task 2: ESIA Scoping Report

155. The Consultant shall prepare an ESIA Scoping Report that will provide detailed information about the approach and methodology used to assess the environmental and social risks and impacts of the Project.

156. This stage of the study will include undertaking a scoping assessment of the Project with the objective of determining the issues or impacts that will be important for consideration while designing the Project and scoping out non-significant issues.

157. The Consultant is responsible for (a) conducting a comprehensive review of all Project-related ES screening and assessments, documents, and relevant government approvals and authorizations, including the existing (ongoing) FS and DED report and associated permits; and (b) gathering and evaluating any additional documents and data necessary for the assigned tasks. This includes reviewing sensitive receptors identified through satellite imagery and web searches, topographic or cadastral map if available; grievances submitted to either the Project or the local government regarding the Project's E&S impacts, including land acquisition and resettlement as applicable.

158. The review findings will contribute to the preparation of the Scoping Report and the identification of additional data required to fulfil the objectives of this ToR and ensure compliance with AIIB ESS.

159. This report shall include the following topics:

- Approach to scoping phases;
- Analysis of alternatives on key relevant issues;
- Stakeholder engagement (noting that both the Public Scoping Report and E&S Baseline Report captured engagement that is suitable for informing the scoping phase);
- Approach to determining the spatial and temporal study area, identification of sensitive receptors, defining directly and indirectly affected receptors and ultimately defining an Area of Influence (AoI);
- Methodology for assessment of the baseline E&S conditions, defining any additional survey effort that may be considered necessary. The baseline data shall be gender disaggregated;
- Methodology used to assess the potential E&S risks and impacts of the Project (including determining significance, development of mitigation measures and application of the mitigation hierarchy, and assessment of residual effects);
- Preliminary risk and impact identification, moving onto preliminary risk and impact screening based on the Project description, baseline data, and an understanding of the Project setting;
- Preliminary evaluation of potential risks and impacts to priority biodiversity values and ecosystem services;
- Preliminary evaluation of the potential risks and impacts of land acquisition process, characterizing the extent of potential land acquisition and involuntary settlement, the methodology utilized, availability of information, and making recommendations for survey works and the type of management plans that may be necessary;

- Methodology used for the assessment of Cumulative Impacts; and
- Approach to ensure that all the above are aligned with the AIIB's E&S requirements, including defining any necessary studies, reports or plans.

160. **Deliverables:** The Consultant shall submit the ESIA Scoping report. It is anticipated that large sections of this document can be directly integrated into the draft ESIA.

161. The Consultant is also expected to attend a follow-up meeting with the PMU and PIUs in which the Scoping Report will be described, and key findings will be highlighted. This meeting might be held in a video-conference call or in person.

Task 3: Environment and Social Impact Assessment (ESIA).

The ESIA shall be formulated in-line with the guidance provided in the AIIB ESP. The Consultant shall prepare the ESIA with the following indicative contents ("ESIA Structure"), with details discussed:

I. Executive Summary (In both Khmer and English)
II. Project Description per province
III. Project Alternatives per province
IV. Project Area of Influence (AoI)
V. Applicable Standards and Guidelines
VI. Methodology
  - Baseline Methodology
  - E&S Risk and Impact Assessment Methodology
  - Climate Change Assessment Methodology
VII. E&S Baseline Data Collection and Analysis per province
  - Environment Baseline
  - Climate Baseline
  - Socioeconomic Baseline
VIII. E&S Risk and Impact Assessment per province
IX. Climate Change Assessment
X. Rapid Cumulative Impacts Assessment per province
XI. Environmental and Social Management Plans (ESMPs) per province
XII. Consultations and Information Disclosure
XIII. Grievance Redress Mechanism (GRM)
XIV. ESIA Standalone Non-Technical Summary (NTS)
XV. Appendices
  a. Gender Action Plan (GAP)
  b. Resettlement Policy Framework (RPF) (Resettlement Action Plan (RAP) if applicable
  c. Indigenous Peoples Planning Framework (IPPF)

Section 3.1: Project Description

162. The Consultant is responsible for gathering additional information on Project activities and clearly identifying Project's development, with a focus on potentially high-risk aspects. The Consultant shall summarize the activities expected to occur during each Project phase, including planning, pre-construction/construction (including necessary site preparation), operations, which includes information on the main project facilities, ancillary facilities, materials and equipment, including Associated Facilities (AF[1]), in accordance with the requirements outlined in paragraph 35 of AIIB ESP.

163. A detailed description of the existing site topography shall be provided, and the land required for the Project must be clearly demarcated and presented using graphical or areal maps. The Project Description shall include the roads for rehabilitation's Right-of-way (RoW), Project footprint, technical design, and other relevant details.

164. The Consultant shall also include the following details in the Project Description which shall be presented in general as applicable for some aspects, but will need to be per province:

- Information on facilities and activities by third parties that could impact or be impacted by the Project, or which effects could accumulate to those from the Project (e.g., synergies or antagonistic effects). Administrative setup, land use and planned developments within the vicinity of the Project location, detailed maps / photos showing the Project site/footprint and Project Area of Influence (AoI);
- Summary of activities likely to take place by Project phase, including future Project development planned. This includes specifying any classified as either AF or Project components for which third parties will have responsibility for assessment and management of E&S risks and impacts (as applicable);
- Design: Specify design/s applied for the Project, including below among others:
    - Indicate design measures to avoid and/or mitigate impacts on biodiversity and ecosystem services.
    - Identify any incorporation of technically and financially feasible road safety components into Project design
- Labor and Workforce: Estimated labor requirement, a summary of workforce management, accommodation strategy, and human resources policies and procedures. The workforce requirement of various categories such as skilled, semi-skilled, unskilled workers, technicians, engineers, managers and other professionals for both construction and operational phases shall be discussed here. Also, details on contractual staff and employed staff shall be presented with men and women ratio here. Targets for local hiring, hiring of women, or on the basis of vulnerabilities/impacts/social categories shall also be proposed. For the operations phase, as applicable, the number of workers required for operations and maintenance, and other miscellaneous jobs shall also be presented here, along with targets, as described above, as agreed and committed;
- Power: Power requirement for construction from local power sources (village power lines) of the project to be assessed here. Also, use of diesel generators (DG) sets along with any other identified auxiliary power source shall be identified and discussed here;

[1] Associated Facilities are activities that are not included in the description of the Project set out in the Legal Agreements governing the Project, but which, following consultation with the Client, the Bank determines are: (a) directly and materially related to the Project; (b) carried out, or planned to be carried out, contemporaneously with the Project; and (c) necessary for the Project to be viable and would not be carried out if the Project did not exist.

- Accurate plans showing the right-of-way (RoW) and Project footprint of roads for rehabilitation, including bridges and drainage areas (as applicable);
- Water quantity estimates and quality required for construction per road. In addition, potential source of water for construction, along with potential alternatives considered, if any. The requirement of water treatment to make water usable, if any proposed, shall be included in this section of the report.
- Details of expected emissions and discharges (to air, water, and soil) including greenhouse gases (GHG), noise and waste, as well as any anticipated measures for reduction of the same that are incorporated within the Project design. Provide information on expected types and amounts of waste to be generated during each construction and potential disposal options and associated quality requirements. Particularly, the Consultant shall determine the presence of treatment, storage, and disposal facilities (TSDFs) in the province/region for handling hazardous waste during construction and operation and maintenance phase (if any);
- Details of location of additional land required, if any, for storage of materials during the construction phase; and
- Updated schedule of execution of main project phases per province, as applicable.

165. ***Deliverable:*** The Consultant shall deliver the Project Description. This document will be included in the ESIA Report as a standalone section.

Section 3.2: Analysis of Alternatives

166. The Consultant shall compare reasonable alternatives in terms of their technical, economic as well as E&S impacts. The alternatives assessment can be qualitative or semi-quantitative, including assigning relevant "weights" to various E&S characteristics, based on sensitivity to the Project context. The Consultant shall use available information from the Technical and E&S Screening stage, and FS and DED stage for the finalization of pipeline of roads for rehabilitation in the six (6) provinces.

167. The Consultant shall provide justification(s) as to why the proposed Project design is considered the optimal solution, considering the following:

- Project selection of roads for rehabilitation;
- Project technology;
- Project layout and design;
- Project interface with Associated Facilities;
- Project and contextual E&S risks and impacts; and
- No Project alternative (what happens if the Project is not developed).

168. Further requirements for the Consultant include discussion on the following:

- Sustainability of Land Use.
    - If considered co-locating roads for rehabilitation, when feasible, to minimize land requirements.
- Road safety: Discuss any technically and financially feasible road safety components incorporated into design.

169. ***Deliverable:*** The Consultant shall deliver the Analysis of Alternatives report. This document will be included in the ESIA Report as a standalone section.

Section 3.3: Project Area of Influence (AoI)

170. The Consultant shall provide a description, justification, and map of the E&S Project Area of Influence (AoI) in accordance with the requirements specified in paragraph 8 of AIIB ESS 1. This will involve clearly indicating the Project's footprint and the extent of direct and indirect impacts within the Project AoI, which may have broader social implications. The determination of Project AoI will be based on the following:

- Project activities and facilities that are directly owned, operated, or managed (for example by contractors) and are components of the Project;
- Impacts from unplanned but predictable developments caused by the Project that may occur later or at a different location; and
- Indirect Project impacts on biodiversity or ecosystems services upon which affected communities' livelihoods are dependent.

171. Additionally, Associated Facilities (AF), as per AIIB requirements, shall be taken into account when defining the AoI. Project AoI shall be presented using graphical or areal maps, utilizing Geographic Information System (GIS) or similar mapping technologies. The Consultant to provide clear rationale for the AoI.

172. The Consultant defines the PAOI with the context that Project has six (6) provinces with roads for rehabilitation scattered in the province, while some are connected. Thus, PAOI is expected to be not one (1) only.

173. ***Deliverable:*** The Consultant shall deliver the Project Area of Influence report. This document will be included in the ESIA Report as a standalone section.

Section 3.4: Review of Country's Legal Framework and AIIB Environmental and Social Framework (ESF)

174. The Consultant shall define the Applicable Standards and Guidelines under which the ESIA is being completed, including applicable laws and regulations, AIIB ESS, WBG EHS, norms and requirements set forth at the international, national, regional and/or local levels. The most stringent requirement to prevail. The review will comprise the following:

175. **Country Legal and Regulatory Framework.** The Consultant shall review the following:

- Detailed review of the E&S regulatory framework that governs the development of the Project (including road and traffic safety, biodiversity and ecosystem services, health and safety, gender and social inclusion, indigenous peoples, labor and working conditions, among others) from concept to operations;
- Detailed review of laws, regulations, national guidelines, standards, international treaties and conventions of which Cambodia is a signatory to, and which is relevant to the Project directly or indirectly. A clear requirement from the Project shall be enumerated for each relevant piece of legislation. This shall include relevant biodiversity and ecosystem services agreements in which the Cambodia is signatory, and corresponding status of national action plans and policies (e.g., Kunming-Montreal Global Biodiversity Framework);
- Detailed review of the relevant country regulations, E&S permit and licensing process and relevant institutional set-up (entities involved in E&S management in the country); and extent and process of public participation and grievance mechanism.

176. **AIIB ESS Requirements.** The Consultant shall review the following:

- Detailed review of the AIIB ESS requirements as identified in the scoping process including the ones that would be triggered for the Project and necessary requirements that shall be taken care of during Project development; and

177. Detailed review of relevant and applicable provisions of internationally recognized standards listed in Section III - Applicable Environmental and Social Standards and Guidelines. **Gap analysis.** Analysis of gaps between relevant country legal and regulatory framework, AIIB's policy requirements, and gaps filling measures are discussed.

178. ***Deliverable*****:** The Consultant shall deliver the Legal and Regulatory Framework report. This document will be included in the ESIA Report as a standalone section.

Section 3.5: Methodology

179. The Consultant shall incorporate in ESIA a comprehensive description of the methodology employed for collecting baseline data and conducting impact assessments. The methodology section shall provide a clear explanation of how the Project is expected to impact each of the identified E&S parameters. It shall include details on the methods utilized to assess these impacts, such as model studies, empirical approaches, referencing existing similar situations, or drawing from previous studies.

180. Furthermore, the methodology section shall specify the tools used for both the baseline data collection and impact assessment. When applicable, these tools shall be provided as an annex to the ESIA, ensuring transparency and enabling further examination of the methodology's application.

181. **Baseline Methodology.** The Consultant is expected to collect and analyze relevant data for the aspects detailed in the ***E&S Baseline Collection*** section of this ToR. The following shall be considered by the Consultant:

- Secondary data shall be used such as the Technical and E&S Screenings carried out for the Project and others where relevant (e.g., trustworthy statistical records, census records, government reports, non-governmental organization (NGO) publications, academic studies and articles, topographic maps, aerial photos, satellite imagery, international databases, GIS data, etc.); and

- Primary data collection through site visit. A field planning exercise will be undertaken to facilitate the collection of primary data. This will include scheduling of activities, logistics planning, and development of field tools.

182. Data collection shall be undertaken to enable an assessment that is proportionate to the nature and scale of the Project and is able to meet the requirements of both prevailing laws and regulations within country and the AIIB ESS. The spatial and temporal extent of the baseline surveys will be determined through professional judgment and good practice. Data will be gender disaggregated, relevant to inform decisions about design, construction, operation, and mitigation measures. This section will indicate accuracy, reliability, and data sources, and shows that the necessary investigations to gather, review and compile all relevant data, and/or to consult with stakeholders have been undertaken by the Consultant.

183. **Impact Assessment Methodology.** The Consultant is expected to incorporate the following:

- Impacts characterization (negative, positive, mixed);

- Impacts nature and duration (direct, secondary, indirect, cumulative; short-term, long term, permanent, reversible);

- Impact significance/magnitude (negligible, minor, moderate, major);

- Impacts likelihood (unlikely, possible, likely);

- Spatial scale (national, regional, local);
- Measures to mitigate (adverse) or enhance (positive) impacts;
- Significance/magnitude of residual impacts (negligible, minor, moderate, major); and
- Where relevant receptor sensitivity/vulnerability (negligible, low, medium, high).

184. The mitigation hierarchy, avoidance or minimization, mitigation, restoration, and as last resort offsets, with clear indication of the impact before mitigation and the residual impact after mitigation, shall be captured in the ESIA. For every impact assessed, it shall be followed by the corresponding Mitigation measures (following the mitigation hierarchy), and Residual impacts analysis. Impact assessment shall consider the views and concerns of Project Affected People (PAP) and other stakeholders (where relevant).

185. ***Deliverable*****:** The Consultant shall deliver the Methodology report. This document will be included in the ESIA Report as a standalone section.

Section 3.6: E&S Baseline Collection

186. E&S conditions shall be described for Project AoI, with clear indication of the Project footprint. The collection of data shall cover the range of physical, biological/ecological, socioeconomic, and cultural heritage aspects that are likely to be affected (directly or indirectly) by the Project pre-construction, construction (including any relocation of utilities, resettlement, trees, and any earth work activity), and operation and maintenance (O&M) phases.

187. Baseline information shall be supported with figures, site visit photos and GIS maps.

188. The Consultant is expected to (a) collect and analyze all the baseline information needed to assess the potential Project impacts and then to be used as benchmark for monitoring purposes, and (b) present in the baseline section of the ESIA the existing E&S condition and related context in an objective manner and with clear reference to the primary and/or validated secondary data that substantiate the description.

189. Baseline data shall be compared against AIIB ESS requirements and relevant GIIP including WBG EHS Guidelines.

190. The list of environmental and social aspects to be addressed in the baseline section of the ESIA, presented as follows are indicative and the Consultant is expected to use its professional judgment to complete following the Applicable Standards and Guidelines (section III), and to be guided with the overarching context that Project is rehabilitation of existing roads (not new roads) and baseline shall be sufficient to inform impact assessment and mitigation.

191. **Environmental baseline**

Table VII.1: Baseline Data – Environmental (per province)

Topic	Indicative Scope
Land use	Identify prior and existing land use of the PAOI.
Climate Change	Capture data considered necessary to conduct a Climate Change Assessment per the steps outlined in the *Climate Change Assessment* section.
Biodiversity and Ecosystem Services	The Consultant is expected to use suitably qualified and experienced consultant to conduct the biodiversity baseline surveys, and that sufficient biodiversity baseline is completed to inform mitigation: • <u>Baseline surveys</u>: Include field surveys methodology and findings (with maps provided) on terrestrial and freshwater habitat and species

Topic	Indicative Scope
	• Habitat types: Review the habitat types contained within the PAOI or ecosystem and classified as either critical habitat, natural habitat, and modified habitat[2]. o Review the data available from online data sources (such as the Integrated Biodiversity Assessment Tool) and from interviews/consultation to screen for any critical habitat values that may be present within an appropriate area of assessment for the Project. Reference shall be made to IFC PS6 GN paragraph 66. o Map the extent and condition of Natural and Modified Habitats. Consultation with local experts to assess potential for the presence of sensitive species identified from IBAT screening to occur on-site. Through survey results and consultation with relevant local and international NGOs if relevant, assess potential impacts to sensitive/protected areas identified from IBAT and other screening, e. g., Important Bird Area (IBA), including potential impacts from the Project's Associated Facilities (if any). • Protected areas and internationally recognized areas: Identify and include maps with respect to Project area. • Priority biodiversity values: Provide a list of potential priority biodiversity values associated with the Project, with a clear statement, according to the principles of vulnerability (threat') and irreplaceability ('rarity/restricted distribution') per IFC PS 6 Guidance Note 6. • Ecosystem services: Identify relevant ecosystem services and establish the baseline for priority ecosystem services (if any) Confirm Habitat designation based on priority biodiversity values, and if Critical Habitat is confirmed, a Critical Habitat Assessment as per IFC PS6 requirements shall be proposed to Client and AIIB and will be handled as separate from this ESIA proposal.
Noise & Vibration	Noise and vibration monitoring baseline shall be undertaken, also related to any sensitive off-site receptors which may be affected by the Project. The Consultant is expected to provide a classification of the site environment (includes construction ancillary facilities such as quarry areas, stone crushing plant, base camps, among others), establish present background noise level, and identify applicable noise limits and location of boundary to a level sufficient for the development of mitigation measures envisaged and to assess the future expected levels of noise, and, if applicable vibration, during operations of the rehabilitated roads.
Air Quality	Air quality monitoring baseline shall be undertaken, related to any sensitive off-site receptors which may be affected by the Project (includes construction ancillary facilities such as quarry areas, stone crushing plant, asphalt preparation areas, among others). The Consultant is expected to provide a classification of site environment (e.g., degraded, or non-degraded airshed), establish present background air pollutants, applicable ambient air quality limits for the area, local dimensioning practice, and assessment of future expected air quality based on available contextual information. This shall consider any implications for the Project design.
Flooding	Gather available data on historical flood events in the PAOI. This includes records of past floods, flood levels, flood durations, and flood frequency. Obtain data from local authorities, meteorological departments, hydrological agencies, and any existing flood monitoring systems. Engage with local communities, experts, and stakeholders to gain insights into past flood events, flood impacts, and local flood risk perception.
Geology, soil, and land cover	The geological and geotechnical/ hydrogeological features shall be described in the baseline report and to cover Geo-hazards and analysis of land cover, soil types, quality, and distribution over the interested area.
Water	Assess the nature of and characterize surface water and groundwater within Project AoI, with particular attention to the Project footprint and construction phase activities. The ESIA report shall have drainage maps to capture and analyze the drainage pattern in the area. A Digital Elevation Model (DEM) map shall also be included to identify the flow of water in the Project PAOI. The ESIA study shall also cover surface water resources in the area and through water quality assessment, identify if there is any contamination of water.
Waste (Hazardous and non-hazardous) generation and management	Provide details on solid and waste management including storage, treatment and disposal with details of the EPC Contractors' practices (if applicable); availability of companies with required permits if engaged in the treatment and disposal of waste.

[2] Defined per AIIB ESF where available, and if none, per IFC Performance Standards (PS) 6, Guidance Note (GN) paragraph 39).

Topic	Indicative Scope
	Determine expected types and amounts of waste stream. Map local disposal options and associated quality requirements, including the permitting status of local landfills and their compliance with international standards and guidelines.
Sources of gravel and quarry areas	Identify and map existing sources of earth materials (borrow pits, quarry areas), including transport vehicle route to Project area, which potentially will be used for this Project. If new sources (green) potentially will be used for the Project, similarly, identify and map.
Archaeology and cultural heritage	Site survey and review of secondary data by an archaeology and cultural heritage expert to ascertain the presence of any archaeological, paleontological and historical remains within the PAOI, as well as tangible and intangible cultural heritage items. Any sites of importance shall be recorded and delineated appropriately and their implications for the Project assessed. In addition, consultation shall be undertaken with relevant authorities as applicable to determine if there any additional requirements which the Project is required to consider.
Traffic and Road Safety	Obtain baseline data of road traffic and road safety statistics (deaths and injuries), especially with children, in the PAOI, and prepare a qualitative representation of the causes. Interact with MRD, PDRD, commune heads, local communities, and other relevant stakeholders to understand the road traffic and present practices in rural road safety measures, signages in the road and measures for speed control in critical junctures.

192. **Social baseline**

193. The social baseline analysis will cover the following:

- **Socioeconomic baseline**: The Consultant shall assemble, evaluate and present available socioeconomic baseline data.
- Demographic profile of the project areas with **sample survey** of major interconnectivities, indicating presence of residential and commercial units. The sample survey shall also present household level data on income, expenditures and access to basic facilities. Income of the commercial units shall be captured in the survey.
- In addition, the socioeconomic baseline will cover population, health, education, occupations and economy data with gender disaggregated data by each target province of Cambodia, which will be obtained from a combination of secondary sources and suitable primary data, such as personal interviews and household or community surveys, on the following, but not limited to, parameters/aspects, as appropriate and relevant:
  - Demographic profile: Population, gender distribution
  - Land use and settlement patterns.
  - Livelihoods, employment, and income levels.
  - Available social welfare services and access to social services (e.g., education, healthcare).
  - Vulnerable groups and poverty profile.
  - Indigenous Peoples, if applicable.
  - Local government institutions.
  - Community organizations and patterns of social interaction, such as social networks and support systems, and service delivery-related complaints resolution.
- **Gender**. A gender assessment will also be carried out to determine the gender issues and trends in the project area. The baseline will include but not limited to the project affected persons (PAPs) and other relevant stakeholders. Gender baseline data shall include (but may not be limited to) indicators of women's mobility; gender differences in constraints faced in accessing facilities(such as markets, schools, and healthcare facilities); gender differences in preferences/concerns; and gender based violence. It is importance to collect gender-specific baseline data to inform

Environment and Social Management Plans (ESMPs) and the Gender Action Plan (GAP) to ensure that the project avoids adverse impact to women and benefits women equitably.

194. ***Deliverable*:** The Consultant shall deliver the E&S Baseline Collection report. This document will be included into the ESIA Report as a standalone section.

Section 3.7: Environmental and Social Impact Assessment

195. The Consultant is expected to assess the E&S risks and impacts (direct and indirect; including impacts on vulnerable project affected persons/groups) resulting from the pre-construction, construction, and operation and maintenance of the Project – including Associated Facilities. The Consultant is expected to provide a clear indication of risks and impacts per Project phase, as well as the significance of risks and impacts before mitigation and after mitigation (i.e., residual impacts) based on information collected as part of the ESIA.

196. The assessment shall comply with Section III Applicable E&S Standards and Guidelines . The impact assessment shall include evaluation of any negative and positive impacts (benefits) that will result from the project compared to the 'no action' case. It shall appropriately differentiate between the impact types arising from the various components of the Project and the required management and mitigation measures. Modelling (for example flooding, or groundwater flow and/or quality, air emissions, etc.) shall be undertaken.

197. **Environmental Coverage.** The following list the environmental aspects to be assessed, but not exhaustive:

- Land use;
- Waste management;
- Flood risks;
- Contamination of soil and water;
- Impacts on air quality related to Project air emissions;
- Noise and/or vibration impacts;
- Climate change impacts to safety of workers and communities specifically due to increase in temperature, heatwaves, and precipitation-related events;
- Cultural heritage (both tangible and intangible);
- Labor and working conditions;
- Health and Safety: Occupational Health and Safety (Traffic and Road Safety; Security personnel); and Community Health and Safety (Labor influx (temporary or permanent project labor), Community exposure to disease, Traffic and Road Safety, Security personnel, Ecosystem services, and Cumulative impacts).
- Ecosystem Services: Assess if Project is likely to adversely affect ecosystem services.
- Biodiversity and ecosystem services: Consider direct, indirect, and cumulative Project-related impacts on biodiversity and ecosystem services.

198. **Social Coverage.** Undertake a broad assessment of potential social and economic risks and impacts, both positive and adverse, associated with the Project, not limited to Involuntary Resettlement or impacts on Indigenous Peoples. This includes direct and indirect impacts at the community and household level, recognizing their interdependence with physical and biological conditions. To address

the potential land acquisition and resettlement issues, a Resettlement Policy Framework (RPF), including Livelihood Restoration Plans (LRPs), and, where applicable, an Indigenous Peoples Planning Framework (IPPF) shall be prepared as annexures to the ESIA. Detailed requirements for RPF and IPPF are elaborated in Task10-11.

199. The following areas are to be covered:

- Land acquisition and resettlement
- Displacement of vulnerable populations
- Impacts on livelihood and income sources
- Vulnerable Groups and discrimination
- Gender-related risk and impacts, including Gender-Based Violence (GBV)
- Impacts on Indigenous Peoples
- Land and Natural Resource Access
- Loss of Access to Assets or Resources or Restrictions on Land Use
- Child Labor and Forced Labor
- Labor and working conditions
- Use of Security Personnel where relevant

200. The social impact assessment will include, but not be limited to, the following topics:

a. Analyze and address issues of land acquisition, including land title, tenure issues, nature of displacements (physical, economic), total numbers of Project Affected People (through census and socioeconomic survey), any other impacts due to land acquisition, such as livelihood restoration etc. Provide gender disaggregated data on PAPs.

b. Assess risks to and impacts on vulnerable groups (e.g., elderly, persons with disabilities, ethnic minorities/Indigenous Peoples, women-headed households, low-income communities/below poverty threshold) and propose measures to mitigate such impacts.

c. Analyze and assess the disruptions to formal and informal livelihood activities, including impacts on agricultural, fisheries, commercial/trade/services, and informal economic activities and propose mitigation measures to ensure continuity or restoration of livelihoods

d. Analyze and address social development issues, and ensure accomplishing the outcomes in terms of inclusion, cohesion, equity, safety, security, and accountability.

e. Identify stakeholders at different levels, mapping key expectations, analyze impacts, issues and concerns as related to each stakeholder subgroups thereof.

f. Identify gender opportunities and potentially adverse gender-specific risks and impacts of the Project (GBV, including Sexual Harassment, Sexual Exploitation, and Abuse (SH/SEA)) and develop mitigation measures to reduce these. Use gender disaggregated data and analysis and consider enhancing the design of the Project to promote equality of opportunity and women's socioeconomic empowerment, particularly with respect to provision of services and employment. Develop measures for the management of interactions between the communities and workers.

g. Assess potential impacts on Indigenous Peoples and their cultural heritage, ensuring compliance with the Free, Prior, and Informed Consent (FPIC), where applicable and prepare and Indigenous Peoples Planning Framework (IPPF), if needed.

h. Analyze restrictions on land use and access to natural resources for local communities and propose alternative options to minimize disruption

i. Assess risks and impacts related to child labor, forced labor, and trafficking and propose mitigation measures to comply with international labor standards

j. Identify risks related to labor and working conditions for workers employed by the Project and propose mitigating measures to address labor influx, working conditions, health, and safety.

k. Assess risks and impacts associated with the deployment of security personnel and develop protocols to ensure community safety and human rights compliance.

Section 3.8: Climate Change Assessment

201. In line with AIIB's corporate commitment to climate action, a climate change assessment is needed. Tasks include:

a. **Calculate emissions of greenhouse gases (GHGs) as a result of the project** including baseline emissions (emissions before project), project emissions (emissions after project), and net emissions (the 'delta' or difference between the baseline and the project emissions).

b. The calculation shall show the breakdown between scope 1, 2 and 3 emissions and shall include the emissions during construction. A summary table showing the baseline emissions, project emissions and relative emissions (on their different scopes) is also required.

c. **Conduct a project level Climate Resilience Assessment (CRA)** To facilitate the assessment of the alignment with the adaptation and climate resilience goal of the Paris Agreement, a (physical) climate risk and adaptation assessment (CRA) is required.

d. Assess the alignment of the project with the mitigation and adaptation goals of the Paris Agreement on climate change, based on https://www.aiib.org/en/about-aiib/who-we-are/partnership/_download/Methodology-for-Assessing-the-Alignment-of-AIIB-Investment-Operations-with-the-Paris-Agreemement.pdf.

e. This Climate risk assessment will follow sequentially the 3-steps of the AIIB methodology for BB2 assessment, consisting on i) a full CRVA, identifying the exposure, sensitivity and vulnerability for each one of the potential climate hazards that might affect the Project ii) a set of structural and non-structural measures that will be implemented on the project to mitigate the climate hazards found on the CRVA that could materially affect the project and iii) compatibility of the project against the NDC and other national adaptation strategies.

f. The set of measures to mitigate the climate hazards of the CRVA shall be real measures that will be incorporated into the project, and thus they shall be discussed and agreed with the client and designers, not just a pure list of proposed measures. These measures can be structural and operational (ie. evacuation plans, etc.).

g. **Estimate climate finance**, i.e., AIIB finance associated with activities that contribute to mitigation (reducing GHG emissions) and adaptation (reducing the vulnerability/enhancing the climate resilience of the project and/or relevant communities, ecosystems or economic sectors). The Climate finance estimate will be based on the methodology of the JMDB common principles for tracking climate mitigation finance and on the JMDB common principles for tracking climate adaptation finance (links below).

h. Each one of the climate mitigation finance activities shall be justified by its inclusion on the list of climate mitigation finance activities of the JMDB common principles for tracking climate mitigation finance. The activity shall comply also with the guidance and criteria of the JMDB common principles for that category.

202. Reference sources include:

- https://www.adb.org/sites/default/files/institutional-document/885296/common-principles-climate-mitigation-financing-tracking.pdf

- https://thedocs.worldbank.org/en/doc/20cd787e947dbf44598741469538a4ab-0020012022/original/20220242-mdbs-joint-methodology-climate-change-adaptation-finance-en.pdf

203. Close coordination shall be maintained with the climate risk assessment team and engineering design team to assess the climate risks and vulnerability and to analyze climate mitigation and adaptation measures incorporated in the project design.

Section 3.9: Rapid Cumulative Impacts Assessment

204. The Consultant shall assess whether **project development** may contribute to cumulative impacts.

205. The Consultant will undertake an assessment of **other existing or planned/permitted projects** which along with the Project, such as agriculture and mining development could have cumulative impacts on Valued Environmental and Social Components (VECs).

206. This shall recognize that Cumulative Impacts are contextual and encompass a broad spectrum of impacts at different spatial and temporal scales. Then information will be used in the development of the management plans to avoid and/or minimize these impacts to the greatest extent possible. A map shall be included which illustrates the proximity of these features to the Project and, as appropriate, the VECs.

207. The consultant shall also take into consideration indirect and induced impacts, such as increased traffic, changes in land use, and potential influx of migrant workers, if any, that may have significant social and environmental consequences.

Task 4. Environmental and Social Management Plans (ESMPs)

Environmental and Social Management Plans

208. **The Consultant shall develop Environmental and Social Management Plans (ESMPs) for each of the six (6) provinces.** This is to identify for each impact the mitigation, monitoring, and management measures to be taken during the various phases of the Project (construction, operations, decommissioning) to avoid, reduce, mitigate, or compensate for adverse environmental, social, climate and health and safety impacts. This is to be provided in a consolidated table form, with the measures required for pre-construction, construction, operation, and de-commissioning to be described. Measures will be developed based on the mitigation hierarchy, commencing with avoiding risks and impacts, followed by minimizing them, and finally compensating/offsetting remaining impacts.

209. This will be prepared in close coordination with the MRD, PDRDs and other relevant entities. It will also be made as part of the procurement documents for construction contracts and will be an obligation on the contractors to implement.

210. In particular for each identified impact the Consultant will establish:

- A set of mitigation measures that will include feasible measures to prevent significant adverse impacts or reduce them to acceptable levels. Such measures will involve technical requirements, guidelines or procedures and practices to be implemented during design, construction, and operation phase of the Project; and

- A set of monitoring requirements that ensure that the identified mitigation measures are taken into account, implemented properly and are sufficient measures for protecting the environment and environment resources, local communities, and workers.

211. As part of the ESMP, the Consultant shall also identify the proposed management structure and roles and responsibilities, as applicable, that will be followed for the project. This to capture MRD, PMU, Project Supervision Consultant, PDRDs, Contractors, and O&M contractor (if any).

212. An Environmental and Social Management Plan (ESMP) shall be prepared including the following:

- A summary of the anticipated significant adverse environmental impacts together with the mitigation measures for each anticipated significant/non-significant adverse environmental and social impact throughout the project cycle and residual impact if any. Mitigation measures shall be specific as much as possible.
- Monitoring plan including:
    - Parameters to be monitored;
    - Proposed locations of sampling points;
    - Methodology for monitoring;
    - Frequency of monitoring; and
    - Responsible agency / agencies.
- Availability and source of funds, expertise and facilities including budget/cost considerations.
- Implementation arrangement including;
    - Implementation schedule of the impact mitigation plan showing phasing and coordination with overall project implementation;
    - Institutional framework, indicating who is responsible for carrying out the mitigation and monitoring; and
    - Capital and recurrent costs to implement mitigation and monitoring measures described above. Identify the availability and source of funds to implement the measures including for capacity development activities.

Table VII.2: Indictive Environmental and Social Management Plan (per province)

Project Activity	**Potential Impacts**	**Proposed Mitigation Measures**	**Institutional Responsibilities** (Implementation and Supervision)	**Estimated Quantities Required and Material Specifications Recommended**	**Cost Estimates**	**Comments** (e.g., secondary impacts)
Pre-construction Phase						
Construction Phase						
Operation and Maintenance Phase						

213. The ESMP shall be prepared based on the impact assessment and collate all recommended mitigation measures and compliance conditions for different permits. The institutional mechanism shall also provide details on training and capacity building, internal and external reporting on E&S, budgetary allocation etc. Subject to the status of project definition, the following management plans shall be developed, or their content outlined in detail to allow its full development by the responsible party (only indicative list provided).

214. The ESMP will also define the requirement of site-specific ESMP (SSESMP) that will be developed by the construction contractor(s). Outlines of sub-plans that need to be included in the ESMP will also be provided; these would include for example, camp management plan, traffic management plan, waste disposal plan, pollution prevention plan, borrow pit management plan, occupational health and safety plan, slope management plan, and others.

Monitoring and Reporting

215. The ESMP will also include a monitoring plan, a capacity building program, and documentation and reporting protocol that are applicable to all target provinces, with adjustments that are tailored to E&S issues specific to each target province. The ESMP will propose institutional arrangements to manage environmental and social aspects of the project and will provide mechanisms for implementing the mitigation measures identified earlier in the assignment, conducting monitoring, reporting and capacity building programs.

216. The consultant shall take into consideration need for **institutional strengthening** of local institutions (e.g., Ministry of Rural Development, Provincial Departments) to implement and monitor environmental and social safeguards and develop **capacity building programs** for local staff and stakeholders, particularly in areas such as environmental and social safeguards, gender inclusion, and climate resilience via training workshops, manuals, and other resources shall be included.

217. Beside provisions on provincial level, monitoring and reporting mechanisms shall include arrangements on project level, namely for AIIB review. For example, MRD hires a Project Supervision Consultant to check each province's activities and report to MRD and AIIB.

218. **Deliverables:** The Consultant shall deliver 6 ESMPs for each province. This document will be included in the ESIA Report as a standalone section.

Task 5. Stakeholder Engagement Plan (SEP)

219. The Consultant shall develop a Stakeholder Engagement Plan ("SEP") as a standalone document in line with the AIIB's requirements. The SEP shall recognize that stakeholder engagement is an ongoing process that involves stakeholder analysis & planning, disclosure and dissemination of information, consultation & participation, grievance mechanism and ongoing reporting to affected communities. In line with the requirements of AIIB, the SEP shall be developed and scaled to the Project risks and impacts and be tailored to the characteristics and interests of the Affected Communities and key stakeholders.

220. The Consultant shall build the SEP based on the E&S assessment outcomes considering local settings. The SEP shall be developed to include the following:

- Identify all Project related direct and indirect, primary and secondary stakeholders influenced by the Project to include central governmental entities, local governmental entities, NGOs, local communities and CBOs; academic and research institutions; private sector companies; media organizations; and most important any vulnerable groups if applicable.
- Evaluate Project related stakeholders to understand their priorities and relevance to the Project.
- Define the Project's approach to stakeholder engagement (post ESIA study, during construction and operations). Preference shall be given to identification of engagement mechanisms that are: (i) culturally appropriate, (ii) scaled to the project risks and impacts, (iii) tailored to the characteristics and interests of the stakeholder groups' language preferences, and decision-making process, and (iv) capture the needs of vulnerable groups and gender considerations.
- Identify the objective of undertaking such consultation activities for each stakeholder group.

- Identify the phase of involvement of stakeholders. This shall include: (i) summary of stakeholder consultations and engagement undertaken as part of the ESIA (scoping process, baseline, impact assessment, mitigation, etc.) and (ii) future engagement post- ESIA phase to be implemented through the project duration to include four distinct phases – planning, construction, operation, and decommissioning.
- Develop a detailed grievance/project complaints mechanism that is responsive and facilitates establishing and facilitating the resolution of stakeholders' concerns and grievances.

221. This SEP shall describe the process undertaken for disclosing Project information, consulting key stakeholders and, where appropriate, incorporating responses into Project design and mitigation. It shall also list all key issues raised to date, who raised them (unless anonymous/confidential), and responses provided, as well as the dates and times of meetings held, details of how meetings were advertised, methods of info dissemination etc. (e.g., radio, TV, newspaper adverts, public meetings, small meetings / focus groups, key informant discussions). It should establish a Grievance Mechanism to record, evaluate, and address complaints or issues raised by stakeholders.

Task 6. Consultations and Information Disclosure

222. ***Consultation:*** Subsequent to the stakeholder analysis, consultation process will be undertaken by the Consultant involving a range of tools including focus group discussions, one-to-one interviews, consultation workshops, and socio-economic surveys. These consultations will be carried out with relevant departments and institutions, subgroups of local communities identified, media persons, NGOs, academia, road users, and project-affected people. Ideally, separate consultations would need to be carried out with women groups in the project area focusing on gender issues.

223. The objectives of these consultations would be to share the project information and key finding of the ESIA with the stakeholders, to obtain their feedback about the project, perceived impacts and preferred mitigation measures, and to collect information on environmental, ecological, and socioeconomic baseline in the project area.

224. **Relevant technical and non-technical materials** will be provided to the participants in a timely manner prior to the consultations and in a form and language that is understandable and accessible to the groups being consulted in both English and Khmer. The entire consultation process will be documented. Sufficient measures shall be taken to overcome barriers and include vulnerable populations and women in the discussions on their participation at all stages of the project.

225. **Information Disclosure** process involves making the draft ESIA shall be available in a public place and online accessible to the public and local NGOs. The English full document, and Khmer executive summary will be disclosed.

226. Following the disclosure of the draft ESIA, The Consultant shall carry out a public consultation meeting with the support from MRD. Key stakeholders will be invited to provide their feedback, which will be incorporated into the final draft ESIA. All consultations shall be properly documented, (for each consultation: date, venue, participants (by age, sex and any other relevant demographics), matrix of feedback and recommendations, dated photographs etc.) and submitted with the final report. The ESIA will be required to be reviewed and cleared by AIIB before disclosed publicly.

Task 7. Grievance Redress Mechanism

227. The Consultant shall develop a multi-tier Grievance Redress Mechanism (GRM). It shall be outlined with clear roles, timelines, procedures and responsibilities. It shall also describe the options available to PAPs for grievance redress regarding environmental, social and resettlement issues. The Consultant shall indicate how the information about GRM would be disseminated and accessible in a

way that is clear and comprehensible to the PAPs. The GRM shall include provisions to protect complainants from retaliation and to remain anonymous, if requested.

228. Meanwhile, the GRM needs to be established for raising workplace-related complaints from direct, contracted workers and the community members, such as field level GRCs (Grievance Redress Committees).

229. The GRM shall be accessible, understandable, and transparent, and the proceedings of the GRM shall be documented diligently. Reference shall be made to the Project-affected People's Mechanism Policy of the AIIB. The consultant shall make sure the GRM are communicated effectively to the Project Affected People.

230. **Deliverables:** The Consultant shall submit the Grievance Mechanism in compliance with the applicable requirements. This document shall be a standalone document, as an annex to the ESIA Report.

Task 8. ESIA Standalone Non-Technical Summary (NTS)

231. The Consultant shall prepare a Non-Technical Summary ("NTS") report that concisely presents meaningful information on the Project, its E&S footprint and impacts, significant findings, and recommended actions in easily understandable (non-technical) language. The section will include a summary of the ESIA (Project description, baselines, impact analysis and mitigation measures for the E&S negative impacts, and enhancement measures for the positive impacts) and a summary of the stakeholder engagement process. NTS is required in English and Khmer.

232. ***Deliverables***: The Consultant shall develop the NTS. This document will be a standalone document, as an annex to the ESIA Report.

Task 9. Gender Action Plan (GAP)

233. It is AIIB's corporate commitments to integrating gender considerations into its infrastructure projects by adopting a systematic approach to achieve positive impacts for women and girls through value-adding practical measures in its projects.

234. The consultant shall Conduct a gender assessment and develop a specific Gender Action Plan to promote inclusion/equality for benefit-sharing for the female and provide recommendations for mainstreaming gender into the project.

235. This may entail new activities in the workplan, with relevant indicators, targets, means of verification, potential partners for implementation. The consultancy will also help determine how we define and measure success in the areas of implementation of the project. Findings from the social and gender assessments will be used to propose relevant measurables indicator for Project's monitoring matrix.

236. **The Gender Assessment** describes the gender context, gender issues (gender equality and gender equity), and gender vulnerabilities (gender relations, access and power) relevant to the project and gender opportunities (recommendations). The Assessment is informed by the following steps, **which could be combined and build-up on work products of other ESIA tasks**:

a. **Primary data collection** includes an in-country stakeholder consultation workshop, interviews and questionnaire responses. Collect sex-disaggregated data concerning the regional and national agents in charge of monitoring and reporting and data management in the countries and partners of the project

b. **Comprehensive desk review** of Project related information and dataset and existing literature. Literature could be drawn from research reports from international organizations (such as United

Nations Development Programme – UNDP), multilateral development banks, journals, and government reports, policies and plans.

c. **Stakeholder consultations**. The Consultant shall consult National Gender Mechanisms if any, e.g. women's ministries, national women's council, women's civil society organizations, or women/girls in the target region of the project been involved in the design of the project

d. The consultant shall Identify gender disparities and inequalities at the local, national and regional level develop a **Gender Action Plan** that

a) **Define concrete measure**s aiming at reducing gender disparities and inequalities and benefit women empowerment, e.g. capacity building requirements for the contractors prior to the start of civil works; establishing a sex-disaggregated registry of available local labor; gender mainstreaming training program for communities and local authorities;

b) **Estimate the cost and clarify institutional arrangements** for the implementation of these measures within the project budget

c) **Clarify, monitoring, and reporting mechanism**. E.g. establishing sex-disaggregated indicators for project performance monitoring and evaluation, and institutional arrangement to incorporate it in quarterly progress reports to PMU and AIIB.

Table VII.3: Indictive Gender Action Plan

Project output	Proposed Activities	Targets and Indicators	Responsible Agency/Person	Cost Estimates

237. ***Deliverables***: The Consultant shall prepare the Gender Action Plan. The document will be a standalone document, as an annex to the ESIA Report.

Task 10. Resettlement Policy Framework (RPF)

238. The consultant shall identify the potential resettlement and loss of livelihood issues that each sub-project and activity are likely to generate. The RPF will prescribe the rules for securing land required by the project and the potential resettlement of the project affected persons (PAPs).

239. In the initial E&S screening during the project preparation, the project was designed to avoid any form of resettlement impacts as the improvement has been limited to pave existing roads within available width. The consultant shall prepare a resettlement framework for the temporary impacts during construction and for any special cases that are not identified in the project preparation. If such impacts are identified at the time of this assignment, the consultant shall prepare a Resettlement Action Plan separately.

240. Temporary loss of livelihood may occur during the construction phase in front of commercial areas/ shopping areas in this project. Measures should be taken to compensate the commercial units affected by such disruptions.

241. The consultant will examine the various land tenure and ownership systems in Cambodia, and the different legal instruments regarding government and individual land acquisition and resettlement and compensation policies. The RPF shall identify and describe any discrepancies identified in the different legal instruments. The RPF shall also identify the legally mandated institutions associated with these legal instruments and their respective roles. This should be at all levels where implementation of project activities is likely to take place. The institutional arrangements will include implementation and monitoring mechanisms that ensure inclusiveness and participation of all affected people (men and

women), communities, and vulnerable and marginalized groups, with a focus on women-headed households, gender-based violence, etc.

242. The consultant will lay out the Bank's policy on Land Acquisition and Involuntary Resettlement (ESS 2) and assess how this applies to the Project. The RPF shall present the gaps between ESS 2 on land acquisition and involuntary resettlement and the relevant legislation of the Government of Cambodia. Measures and recommendations to bridge the gap between the two institutional frameworks shall be identified and explained. The consultant shall work closely with PMU and provincial PIUs, refer to the information provided when relevant.

243. Based on the above, RPF for securing lands for the proposed project needs shall be formulated. Generic principles include but are not limited to estimating replacement values for land and structures, and rehabilitation measures for livelihoods, including training, capacity building, employment opportunities for PAPs. This RPF shall include a detailed Entitlement Matrix for all categories of PAPs.

244. In case of land acquisition, removal of the encroachments and squatters and vendors will also be considered and included in the Entitlement Matrix. The Entitlement Matrix is required to clearly identify rightful claimants (PAPs) of compensation and the amount of compensation accruing to the claimants. The Entitlement Matrix shall further provide guidance on engaging with the PAPs, conduct consultations on the need and benefit of clearing the encroachment, agreement on the compensation amount and actual payment of compensation. The RPF shall clearly state the sources of funding for subsequent Resettlement Action Plans (RAP), an overall cost estimates for resettlement including for monitoring of the resettlement activities. The financial responsibility of the relevant stakeholders, where applicable, shall be categorically stated to avoid ambiguity of source of funds for resettlement activities. These budgets should take into consideration inflationary tendencies.

245. To avoid confusion with cut-off dates and other timelines, especially because compensation will have to be paid prior to commencement of any civil works, it is important for the RPF to set out implementation schedule for the resettlement. The RPF shall in addition to the implementation schedule identifies potential risks and impacts that could affect the smooth implementation of the resettlement actions and suggest plausible mitigation measures to serve as a guide to the client and the team who will be working on the implementation.

246. **Deliverables**: Resettlement Policy Framework will be a standalone document, as an annex to the ESIA Report.

Table VII.4: Indictive Content of RPF

✓ Introduction
✓ Legal and Policy Framework
✓ Social Impact Baseline and Assessment
✓ Stakeholder Consultation and Information Disclosure
✓ Institutional Arrangements
✓ Grievance Redress Mechanism (GRM)
✓ Compensation, Income Restoration and Relocation
✓ Land Acquisition and Resettlement Financing and Implementation.
✓ Monitoring, Evaluation and Reporting

Task 11. Indigenous Peoples Planning Framework (IPPF)

247. It was envisioned during the project preparation that there would be no or limited impacts on indigenous groups, and indigenous peoples' specific actions shall be included in the resettlement policy framework.

248. The consultant shall develop an Indigenous Peoples Planning Framework (IPPF) to manage issues that may arise relating to any IP communities residing within any of the subproject sites, if any.

It seeks to ensure that subprojects that are in areas where officially recognized ethnic minorities are residing are designed and implemented in such a way that fosters full respect of their ethnic identity, dignity, human rights, livelihood systems and cultural uniqueness as defined by the ethnic group themselves.

249. The aim is to enable them: (i) to receive culturally appropriate social and economic benefits; (ii) to not suffer from adverse impacts that may result from the subproject; (iii) to participate actively in the project; and (iv) to gain equal benefits from the subproject investment. This IPPF has been designed to safeguard the rights of the Indigenous Peoples (IP) groups in the Project targeted areas and ensure that they are able to participate and equitably receive culturally appropriate benefits from the Project.

250. To achieve this objective, during the initial screening for each subproject there will be a determination of the presence of IPs within the site and the identification of any potential impacts on them. During implementation of civil works, existence of indigenous peoples and culture shall be monitored and confirmed through periodic social safeguard monitoring, such as semi-annual environment monitoring.

251. Where they are found to be present the public consultations will be managed in a way that ensures meaningful participation of the IP communities.

252. The project IPPF shall be prepared on the basis of the ESS 3 by taking into account relevant Cambodian policies and regulations. The IPPF shall outlined requirements for any sites where there are IP communities present, there is a need to prepare an Indigenous Peoples Plan (IPP). The IPP draws on indigenous knowledge and participation by any affected IP communities and takes into consideration differentiated impacts of the Project with respect to gender and different generations. The IPP includes (i) a framework for continued consultation with those affected IPs during the subproject implementation; (ii) measures to provide these IPs with gender sensitive and culturally appropriate benefits; (iii) measures to avoid, minimize. Mitigate, offset or compensate for any adverse subproject impacts, and actions to address these impacts on the different groups in the community; (iv) culturally appropriate grievance procedures, monitoring and evaluation arrangements; and (v) budget and time-bound actions for implementing the planned measures.

253. The IPPF shall also outline a GRM that is based on the mechanism that is used for the Project, and this will need to be further refined in consultation with IPs, if any are found to be residing at any subproject sites.

254. **Deliverables**: Indigenous People's Planning Framework (IPPF) will be a standalone document, as an annex to the ESIA Report.

Task 12: ESMPF

255. **Application of an ESMPF**. For future similar rural road recovery projects funded from the AIIB loan in Cambodia, if the projects are located in the existing six provinces, a similar ESIA shall be conducted and additional ESMP, GAP, RP, and IPP, if applicable for the new projects shall be prepared.

256. For new projects that are located outside of the existing six provinces, an ESMPF shall not be used and applied since project locations and detailed activities are not yet identified.

257. The ESMPF is mainstreamed in the implementation of the Project through the inclusion of the ESSs as well as in the organizational arrangements of the MRD as the EA for the Project. The ESMPF also describes the procedures for external audit, document updating and disclosure norms.

258. **The purpose of ESMPF** is to provide a framework for the EA, as well as the consultant and contractors, to guide the environment and social screening and subsequent assessment of project/sub

projects/activities to be identified, prepared and implemented during implementation. It will provide an overview of the types of subprojects to be assessed, the environmental and social screening criteria and the potential range of sub project-specific instruments that will be prepared once the project/sub project locations and other details are identified during implementation. Consultation mechanisms and environmental and social monitoring and reporting will also be addressed within this framework to ensure ongoing adherence to environmental and social safeguards.

259. Henceforth, the consultant shall review the procedure of this project as a reference and develop an ESMPF for such unknow future projects/subprojects.

260. Overall, the ESMPF includes the following:

a) Procedures for environmental and social risk mitigation, including an environmental and social impact assessment (ESIA) and an environmental and social management plan (ESMP). A generic ToR for the ESIA and ESMP are also provided that will be used for subproject preparation studies.
b) Principles for land acquisition and resettlement where needed, based on the Project RPF that has been prepared including the procedures, requirements and organizational requirements for involuntary land acquisition and resettlement, and preparation of resettlement action plan (RAP) and/or the detailed resettlement plan (DRP) and/or livelihood restoration plans (LRP) based on the subproject risk categorization. (**Covered in the standalone Resettlement Policy Framework**)
c) Principles, procedures, requirements and organizational arrangements to address the needs of IPs that are affected by a subproject based on the IPPF that has been prepared by the EA. (**Covered in the standalone Indigenous Peoples Planning Framework**)
d) Procedures for the conduct of due diligence on the lands of existing roads and in addition assessment of associated facilities
e) Procedures for the provision of training for local residents to enable them to participate in civil works or operation & maintenance (O&M).
f) Measures to ensure full compliance with local labor laws to provide equal pay for equal work, prohibition of child labor and forced labor.
g) Measures to support equitable access to subproject benefits for women and children, elderly and disabled persons.
h) Mitigation actions for improving the capacity and the provision of training on the use of PPE as well as social and behavioral awareness during subproject preparation and implementation
i) Mitigation measures to address risks to cultural heritage and other identified potential risks.
j) The GRM and stakeholders consultation mechanism to ensure a participatory and fair approach in evaluating and mitigating the risks.
k) Description of the stakeholders and their respective responsibilities and the stakeholder engagement plan.
l) Outline of the human resource strengthening required within the EA PMU and PIUs to the implementation of the framework and proposed capacity building activities.
m) Instructions on the monitoring and updating of the ESMPF.

261. An indictive ESMPF content table is shown in **5** below, and a detailed ESMPF template is shown in Annex I.

Table VII.5: Contents of an Environmental and Social Management Framework

✓ Table of Content ✓ Introduction ✓ Purpose and Scope of the ESMPF ✓ Descriptions of the Project, Components and Typology of Sub projects ✓ Potential Environment and Social Impacts ✓ Legal, Policy Framework and Regulatory Requirements - Applicable Country Legislation and Regulations - Asian Infrastructure Investment Bank Policies

- Gap Analysis ✓ Procedures to Address Environment and Social Safeguards Issues - Environment and Social Screening of Sub projects ✓ Grievance Redress Mechanism ✓ Consultation and Disclosure ✓ Project Implementation Arrangements, Responsibilities and Capacity Building ✓ Annexes - Screening Form for Potential Environment and Social Issues - Resettlement Policy Framework for Land Acquisition and Involuntary Resettlement - Indigenous Peoples Planning Framework - Labor Management Procedures (LMP) - Chance find procedures

262. **Deliverables**: ESMPF will be a standalone document, as an annex to the ESIA Report.

263. The key deliverables expected are shown in **Table VII.6**. The Consultant is required to deliver according to the following timeline. All documents shall be provided to MRD and AIIB in electronic format.

Table VII.6: Key Deliverables of ESIA Services

No	Deliverables	Format	Timeline (Months from contract signing)
1	**Inception Report** comprising of work plan, timelines, and field survey methodology.	Word, PDF	0.5
2	**Scoping Report**	Word, PDF	2
3	**First draft of ESIA, and ESMPs** (including Stakeholder Engagement Plan (SEP), Gender Action Plan (GAP)), Resettlement Action Plan (RAP), Livelihood Restoration Plan (LRP), Indigenous Peoples Plan (IPP), Labor Management Procedure, other E&S instrument if needed and the draft executive summary (in both English and Khmer) of sufficient quality.	Word, PDF	4.5
4	*MRD and AIIB review and provide comments and clearance for disclosure of first draft report in not more than two weeks (if report is of sufficient quality).*		5
5	Conduct public consultation meeting on draft report	Public consultation meeting	5.5
6	**Final ESIA and ESMPs** (including Stakeholder Engagement Plan (SEP), Gender Action Plan (GAP)), Resettlement Action Plan (RAP), Livelihood Restoration Plan (LRP), Indigenous Peoples Plan (IPP), Labor Management Procedure, other E&S instrument if needed, and summary of public consultations, executive summary and incorporating comments. The draft executive summary shall be in both English and Khmer.	Word, PDF	6
7	*MRD and AIIB provide clearance for disclosure of final report (if report is of sufficient quality).*		6.5

***Note:** Reports to be delivered in both Word and PDF formats, with Summary of Key Findings in PPT*

264. The Consultant proposes a timeline for the undertaking of the above referenced tasks and deliverable when submitting the technical proposal for this ToR.

D. STAFFING AND KEY PERSONNEL

265. The Consultant is expected to appoint a team of specialists that will carry out the necessary investigations to gather, review and compile all relevant data for the development of the ESIA including ESMPs, ESMPF, RPF/RAP, and IPPF, and other ES studies, and conduct the related consultation activities. The Consultant shall provide and maintain all key experts throughout the assignment; any changes are subject to prior approvals by the Client (and Lenders when applicable).

266. Strong preference will be given to The Consultant:

(i) familiar with national applicable law, including national E&S requirements and the regulatory context and AIIB ESS, WBG EHS, IFC Performance Standards (IFC PS), Asian Development Bank Safeguard Policy Statement (ADB SPS), World Bank Group Environmental and Social Standards (WBG ESS); and
(ii) with experience in planning, developing, and managing such E&S Studies and related field work activities.

267. The position of Team Leader should be a staff member from the E&S Consultancy Firm leading this work, and not from partner organization/ sub-contractor(s). The following requirements in **Table VIII.7**: are a broad description of the likely expertise needed for this consultancy assignment. The Consultant may propose additional experts and/or suggest different team composition in the Technical Proposal as may be needed to fulfil this TOR.

Table VIII.7: Key Experts of the Consultant Team

	International Expert	Minimum Qualifications and Experience
1	Team Leader ("TL") (1) (international)	The TL shall be a **social and/ or environmental** expert having at a minimum a MSc. degree in relevant disciplines with experience in ESIA, ESMP, RAP as well as experience in stakeholder engagement. The TL should have at least 15 years of experience in managing complex projects (including transport) of multi-disciplinary nature and involve several stakeholders with a track record of application of AIIB ESS, IFC PS, WB ESS and ADB SPS. Excellent communication skills, knowledge of English language skills and project experience in Southeast Asia/Cambodia are essential.
2	Senior Environmental, Health, and Safety Specialist (1) (international)	Shall have a higher degree in Environmental Engineering or other relevant disciplines with at least at least 10 years of experience in conducting environmental, health, and safety (EHS) impact studies and EHS due diligence (including traffic and road safety), including data collection and analysis, for infrastructure projects specifically road projects in line with GIIP such as AIIB ESS, IFC PS, WB ESS and ADB SPS and relevant national E&S requirements. English language skills and project experience in Southeast Asia/Cambodia are essential.
3	Biodiversity Specialist (1) (international)	Shall have a higher degree in a relevant discipline (e.g. biological or ecological sciences) with at least 5 years of experience in conducting similar assignments in line with IFC PS6. English language skills and project experience in Southeast Asia/Cambodia are essential.
4	Social Development and Resettlement Specialist (international)	The Social Development Specialist should hold minimum of bachelor's degree (Masters preferred) in social science or a related field, preferable minimum of 10 years relevant experience in community development and assessment of the social impacts, resettlement and land acquisition plans of rural roads under the project in the Southeast Asian countries. The expert will have substantial experience of preparing land acquisition plans, and other ES instruments to the standards required by Cambodian law and international donor agencies. English language skills and project experience in Southeast Asia/Cambodia are essential.
5	Senior Climate Adaptation/Resilience Specialist (International)	The Climate Adaptation/Resilience Specialist should hold a master's in engineering, environmental planning, meteorology, or a related field with at least seven (7+) years of professional experience with climate resilience and disaster risk reduction (DRR). The consultant shall be familiar with IFI methodologies, or other internationally acceptable standards/methodologies. English language skills are essential.
6	Senior Climate Mitigation Specialist (International)	The Senior Climate Mitigation Specialist shall hold a relevant post graduate degree in related field with at least seven (7+) years of professional experience in GHG calculations for similar projects. The consultant shall be familiar with the GHG Protocol for Project Accounting, IFI methodologies, or other internationally acceptable standards/ methodologies. English language skills are essential.

	National Experts	Minimum Qualifications and Experience
1	Gender Equality, Disability and Social Inclusion (GEDSI) Specialist	An experienced GEDSI specialist with a minimum of 10 years' experience in civil society engagement, gender equality, disability, and social inclusion. The consultant should also have specific experience of 3 years in MDB-funded transport and infrastructure projects and technical assistance activities. They should be able to demonstrate

	National Experts	Minimum Qualifications and Experience
	(National)	experience in undertaking stakeholder engagement with women, persons with disability and other marginalized groups. English language skills are essential.
2	Social development and resettlement specialist (National)	Degree in Community Development, Sociology, Anthropology, Development Management or similar with minimum experience of 10 years. Specific experience must include capacity assessment and training, conflict management and resolution, grievance handling, mediation and conciliation, and crafting Resettlement Policy Framework or supervising land acquisition and involuntary resettlement programs. English language skills and experience with projects financed by multilateral development banks or bilateral donors is essential.
3	Environmental Specialist (National)	Master's degree in environmental science or related field with minimum experience of 10 years. Specific experience must include environmental impact assessment and preparation of environmental management plans for infrastructure projects. English language skills and experience with projects financed by multilateral development banks or bilateral donors are essential.
4	GIS Specialist (National)	Shall have at least 5 years of experience in conducting similar assignments and reporting on geographical information system (GIS) environmental and social primary and secondary data. English language skills are essential.

268. The total person-months input of the experts in **Table VI.7** are indictive. The number of local experts is subject to consultant's own arrangement and mobilization of local expert team.

Table VIII.8: Indictive input the Consultant Team

No.	Position Title	Indicative Person-Months
International Key Experts		
1	Team Leader	3
2	Senior Environmental, Health, and Safety Specialist	2
3	Biodiversity Specialist	2
4	Social Development Specialist	2
5	Senior Climate Change and Disaster Risk Reduction Specialist	3
6	Senior Climate Mitigation Specialist	2
	Sub-Total	**14**
National Experts		
1	Local Environmental Specialist 1	3
2	Local Environmental Specialist 2	3
3	Local Environmental Specialist 3	3
4	Local Social Development and Resettlement Specialist 1	3
5	Local Social Development and Resettlement Specialist 2	3
6	Local Social Development and Resettlement Specialist 3	3
7	Local Gender Equality, Disability and Social Inclusion (GEDSI) Specialist 1	3
8	Local Gender Equality, Disability and Social Inclusion (GEDSI) Specialist 2	3
9	Local Gender Equality, Disability and Social Inclusion (GEDSI) Specialist 2	3
10	GIS Specialist	4
	Sub-Total	**31**
	Total Indicative Person-Months	**45**

269. These will be supported by a team of supporting specialists appropriate to the Project risks, with local language skills and local expertise including knowledge of local procedures, as suggested below:

- Flood risks;
- Climate change risk and vulnerability;
- Soils, geology, hydrogeology and topography/landscape;
- Biodiversity (flora & fauna);
- Community health, safety and security;
- Socio-economic analysis, resettlement/land acquisition, stakeholder engagement;
- Gender and GBV;
- Indigenous Peoples;
- Archaeological, historical and cultural heritage;
- Solid and hazardous materials and waste management;
- Occupational Health and Safety.

270. Overall, the Consultant's team is expected to:

- Be a firm or a consortium with appropriate and sufficient capabilities, resources, and experience to execute the full extent of the scope of services to a very high quality;
- Have a proven record of completing **at least five (5) similar assignments** in a similar sector;
- Have completed **at least five projects in Cambodia**; demonstrate successful experience in facilitating discussion, capacity building, and handholding support to the Royal Government of Cambodia;
- Bring **a good mix of relevant international and national expertise** - international Consultant is encouraged to team up with local consulting firms/think tanks/academic institutions, if it enhances the team's qualifications, expertise, and language skills; and
- Formulate a dedicated project team with the relevant qualifications, work experience, **gender diversity**, communication skills and project management skills.
- For international Consultant, association with the host country is essential, unless the international consultant can demonstrate significant host country knowledge and experience and capacity to travel onsite.
- The Consultant and its contractor(s), sub-contractor(s) are expected to comply with national and international health and safety requirements, ensuring the safety of their teams and stakeholders consulted for undertaking the work.

E. ANNEX 2 – TEMPLATE OF ESMPF

A. Introduction

This section provides the rationale of the Asian Infrastructure Investment Bank support to the project, amount of Bank financing, co-financing from other sources, the nature of Bank support (i.e., whether the Bank supports investments, technical assistance, advisory services, capacity building, etc.)

[*This section should not take more than a half page*]

B. Purpose and Scope of the Environment and Social Management Planning Framework

The section provides the rationale and purpose of using a framework instead of sub-project specific plans such as Environmental Impact Assessment, Environmental Management Plan, Resettlement Action Plan or Indigenous Peoples Plan.

- *Rationale of a framework* is that specific locations and detailed information about the sub projects will only be known during implementation.
- *Purpose of a framework* is to guide the Implementing Agency and the Sub project Proponents on the environment and social screening and subsequent assessment of sub projects during implementation, including the relevant sub project-specific plans that have to be developed in compliance with the Bank policies.
- *Scope of a typical framework* includes environmental and social screening to determine sub project category, potential environment and social issues and sub project-specific instrument (plans). It also includes the Land Acquisition and Resettlement Framework and the Indigenous Peoples Framework either as part of the main body of the ESMPF or as annexes.

[*This section may be a page long or less*]

C. Project Description

The section describes the project or sub-project, including its development objective, major components, geographic area of coverage, project area of influence (including ancillary facilities and linked activities).

This section describes:

- The development objective of the project.
- The proposed project; major components; any ancillary facility and potentially linked activities; and its geographic coverage.
- If the project involves multiple sub projects that will be identified during implementation, it also describes the types of eligible sub projects (e.g., in an agricultural project, eligible sub projects could include access roads, rural water supply, communal irrigation system, livelihood activities, etc.).
- Where possible and available, a map showing geographical coverage of the project, project site and the project's area of influence should also be included in this section.

  [Above information can be downloaded directly from the Project Concept Note and Project Document. Other information can be generated from feasibility studies, project scoping study or preliminary design study. A site visit may be necessary to understand geographic and ecological settings. Depending on the type of project, the area of influence may extend beyond the project location, e.g. in hydro development, the area of influence may extend upstream to cover the reservoir and to downstream users. It may also include transmission / power lines. For road project, the area of influence may cover supply of aggregates and availability of water for construction.]

D. Potential Environment and Social Impacts

This section describes in general terms the potential environment and social impacts of the types of/eligible subprojects that will be supported by the Project during pre-construction, construction and operation and maintenance.

The environmental and social impacts of the sub project will generally depend on the type and the extent of civil works, studies, technical advisory etc. In new infrastructure projects such as hydro, site selection is one of the major tools which can be used to eliminate or minimize project's environmental and social impacts.

Category B subprojects will likely involve renovation or maintenance of existing infrastructure, some construction of new projects on existing land, and equipment replacement/installation that will not involve any new construction. Therefore, many of the issues for the project components are similar.

- As a guide (For civil works and construction activities), the general issues are:
  - Materials Supply (Gravel, Concrete, Asphalt, etc.) -environmental compliance of in controlling dust and material spillage/loss during transport, delivery and storage, sustainability of the source of natural materials, licensed sources of aggregates.
  - Noise
  - Dust
  - Chance Find of Physical Cultural Resources
  - Management of Solid Wastes (hazardous and Non-Hazardous) -collection, transport, and disposal of any debris
  - Emissions from Construction Equipment
  - Fuel and Oil Spills from Construction Vehicles
  - Worker and Public Health and Safety
  - Management of Oil and Fuel for Construction Equipment
  - Traffic Management
  - Land acquisition
  - Displacement of people
- For equipment replacement and installation, the main issues are:
  - Disposal of Packaging Wastes
  - Worker Safety During Installation
- For operation and maintenance, the primary issues are:
  - Solid waste management
  - Maintenance of drains and storm water facilities
  - Noise from new equipment (pumps etc.)
  - Management of fuel, oil, hazardous materials, etc.
  - Emergency procedures in case of fuel, oil, hazardous materials spill
  - Use of fertilizers, herbicides and pesticides
- For the export of waste to other countries for reuse, recycling and / or disposal the issues are:
  - Transport methods to avoid littering during transit

- Compliance with applicable transit / recipient country law and regulation
- The use of licensed or permitted landfills for waste disposal
- The use of licensed or permitted facilities for the handling / recycling or disposal of hazardous waste
- To reuse and recycle waste as a priority, followed by disposal.
- Benefits of reducing waste generation / disposal on small island states (reduced air, land and water pollution, reduced potential health and safety impacts from exposure to waste, reduced demand for land, and reduced vermin / pest problems).
- Compliance with international conventions on the trans-boundary movement of hazardous substances and waste.
- Environmental issues associated with waste reuse, recycling and disposal at the destination territory / island / country (noise, odor, leachate, pests, use of land).

- For TAs, the issues are:
  - Whether the TA would support the preparation of any plan, pre-feasibility, and feasibility studies that will lead to future sub projects.
  - Whether the TA will support the preparation of engineering design for any investment.

E. Legal, Policy Framework and Regulatory Requirements

This section describes the applicable/relevant Asian Infrastructure Investment Bank safeguard policies (ESF) and country specific policy, legal and administrative frameworks and applicable rules and regulations relevant to the project during its preparation and execution and results of the gap analysis between Bank policies and country systems that will be filled up in the ESMPF.

The descriptions of Cambodia national policies, administrative and institutional frameworks will be based on the stocktaking of policies and institutions done by the Asian Infrastructure Investment Bank Team.

- *Asian Infrastructure Investment Bank Safeguard Policies* Environmental and Social Framework ESF. This guidance should be used to identify the relevant policies applicable to the project and how they will be addressed.
- *Country specific policy, legal and administrative framework and applicable rules and regulations* relevant to the project will include social and environmental requirements and the relevant approval, permitting and licensing obligations to process and execute the project. It will also identify relevant international environmental agreements to which the country is a party.

F. Procedures to Address Environment and Social Issues

This section describes the screening process to determine (i) the potential environment and social issues of a sub project; (ii) sub project environment category based on the environment and social issues; and (iii) the sub project-specific action plan/s that has/have to be prepared as part of the sub project preparation but prior to its approval.

Sub project Environment and Social Screening

Subproject environment and social screening form is shown in Attachment 1. This should be used henceforth for screening sub projects.

Category A sub projects are those that have potential significant adverse environmental and social impacts that are (i) sensitive (i.e., a potential impact is considered sensitive if it may be irreversible - e.g., lead to loss of a major natural habitat, Natural Habitats; when a project includes the manufacture, use, or disposal of environmentally significant quantities of pest control products); (ii) diverse, or unprecedented; and/or, (iii) affecting an area broader than the sites or facilities subject to physical works (e.g., a dam that may affect downstream communities, or roads construction that may have induced impacts on nearby forests and natural habitats).

Category A Screening Examples

How can a sub project affecting natural habitats be categorized as A?

The project is categorized as A if the screening indicates the potential for significant conversion or degradation of critical or other natural habitats. *Significant conversion* is the elimination or severe diminution of the integrity of critical or other natural habitats caused by a major, long-term change in land use or water use. Significant conversion may include, for example, land clearing; replacement of natural vegetation; permanent flooding; drainage, dredging, filling, or channelization of wetlands; or surface mining. Conversion can result directly from the action of a project or through an indirect mechanism (e.g., through induced settlement along a road). *Degradation* is modification of a critical or other natural habitat that substantially reduces the habitat's ability to maintain viable population of native species.

How can a sub project affecting forests be categorized as A?

A project with the potential for significant conversion or degradation of natural forests is classified as Category A. Natural forests are forest lands and associated waterways where the ecosystem's biological communities are formed largely by native plant and animal species and where human activity has not essentially modified the area's primary ecological functions.

How can a sub project affecting physical cultural resources be categorized as A?

Physical Cultural Resources are movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. A project that will likely have significant adverse impacts on PCR is categorized as A.

How can a sub project that triggers pest management policy be categorized as A?

Projects that include the manufacture, use, or disposal of environmentally significant quantities of pest control products are classified as Category A. Environmental significance takes into account the impacts, including benefits, on human health.

When is a sub project involving Involuntary Resettlement likely to be categorized as A?

The Bank does not provide specific categorization criteria, Involuntary Resettlement. Generally, projects with significant resettlement-related impacts should be categorized as A. Application of judgment is necessary in assessing the potential significance of resettlement-related impacts, which vary in scope and scale from project to project. Projects that would require physical relocation of residents or businesses, as well as projects that would cause any individuals to lose more than 10 percent of their productive land area, often are categorized as A. Scale may also be a factor, even when the significance of impacts is relatively minor. Projects affecting whole communities or relatively large numbers of people (for example, more than 1,000 in total) may warrant categorization as A, especially for projects in which implementation capacity is likely to be weak.

When is a sub project involving Indigenous Peoples likely to be categorized as A?

The Bank does not provide specific categorization criteria, Indigenous Peoples. Though the policy applies whenever a group meeting the Bank's definition of Indigenous Peoples is present in the project area, categorization typically reflects the potential significance of any adverse impacts upon such groups. Projects that would require relocation of Indigenous Peoples, that would restrict their access to traditional lands or resources, or that would seek to impose changes to Indigenous Peoples' traditional institutions, are always likely to be categorized as A.

Category B sub projects are those sub projects that have potential adverse environment and social impacts that are less adverse, site-specific; and few if any of the impacts are irreversible.

Category C sub projects are those sub projects that have minimal or no adverse environmental and social impacts.

Safeguard Instruments

Limited Environment and Social Impact Assessment (ESIA). A limited ESIA is undertaken for Category B sub projects that will require additional sub project-specific data/information and further analysis to determine the full extent of environment and social impacts, which cannot be supplied by an Environment and Social Management Plan (ESMP) and/or an Environmental Code of Practice (ECOP).

Exceptions. All Category A projects will apply to a full ESIA, while Category C projects do not require any safeguard instrument beyond screening.

Environmental and Social Management Plan (ESMP). For sub projects that do not require additional data and analysis, an ESMP may be prepared to address construction-related and site-specific environment and social issues.

Environmental Code of Practice (ECOP). For construction-related impacts, an **ECOP** should be sufficient to address environmental and social issues.

Resettlement Action Plan (RAP), either an abbreviated RAP or a full RAP will need to be prepared by the sub project depending on the number of project-affected people. If more than 200 are affected, a full RAP has to be prepared, if less than 200 an Abbreviated RAP is prepared.

Social Assessment (SA)

Projects triggering ESS 3 are required to undertake a social assessment and free, prior and informed consultations. The social assessment may be undertaken as a separate exercise or may be included as part of a broader ESIA. Assessment results may be presented as a stand-alone social assessment document or may be incorporated into the broader ESIA.

Indigenous Peoples Plan (IPP). If Indigenous Peoples are present in, or have collective attachment to, the sub project area, an IPP is required for the sub project.

Incorporating elements of an IPP in sub project design. In sub project settings where the sole or overwhelming majority of direct beneficiaries are Indigenous Peoples, the elements of the IPP may be incorporated into the overall sub project design. A separate IPP is not required.

G. Grievance Redress Mechanism

The section describes the mechanism to receive and facilitate resolution of affected peoples' concerns, complaints, and grievances about the project's performance, including concerning environmental and social impacts and issues.

The grievance mechanism should address affected people's concerns and complaints promptly, using a transparent process that is responsive, culturally appropriate, and readily accessible to all segments of the affected people at no cost and without retribution. The mechanism should not impede access to the country's judicial or administrative remedies. The redress mechanism should be communicated to the communities and included in relevant project documents (e.g. Operational Manual).

H. Public Consultation and Information Disclosure

This section describes the consultation process and how project specific information would be disclosed.

It should articulate how two-way communication between the Implementing Agency and the affected communities and stakeholders would be achieved throughout the project cycle. It should describe how stakeholders' input would be sought at all stages of the project development, and how comments received during project preparation would be considered in designing the project. Where appropriate, a mechanism for ongoing consultation may be necessary throughout the life of the project, to disclose information and seek feedback. This may include information on the effectiveness of mitigation measures and affected communities' ongoing interests and concerns about the project.

The consultation process and its results should be documented in the ESMPF. It should: (i) cover country laws and regulations relevant to the consultation and disclosure process; (ii) include methods (newspapers, pamphlets, community papers, interviews, community meetings and consultations, participatory tools) and means (radio broadcast, local TV, internet) used to inform and involve the affected people and other stakeholders in the environmental and social process; (iii) summarize response and highlight issues raised by various stakeholders; (iv) include mechanism for future consultations; and (v) document public meetings and interviews, including dates, names, gender, topics, details of discussion, and important outcomes. If ESS 3 is triggered the IPPF (whether stand alone or integrated into the ESMPF) will describe the particular arrangements for free, prior and informed consultations during sub-project preparation and implementation.

I. Institutional Arrangements, Responsibilities and Capacity Building

The section describes the institutional arrangements to implement the ESMPF from the screening of sub projects for environment and social issues, preparation of sub project instruments, review and clearance of sub projects to monitor the implementation of the ESMP, RAP, IPP, etc. A clear delineation of responsibilities has to be spelled out under this section.

To ensure that the ESMPF is effectively implemented, the IA should be assessed for its capacity to manage environmental and social impacts and risks and to implement national laws and the Asian Infrastructure Investment Bank's requirements. This may require the IA to either delegate the responsibility to supervise the project to either the supervision Consultant or to develop in-house capacity to manage the day-to-day supervision of the implementation of the ESMPF. Mechanisms and measures for capacity building should be developed and integrated in project design and documented in the ESMPF.

More attention may need to be paid to monitoring and supervising subprojects to avoid the risk of noncompliance with safeguard policies.

Institutional capability and capacity to monitor and enforce safeguard instruments and country laws and regulations is low. A capacity building program with budget to strengthen the IA's environmental and social safeguard capacity should be included in the project.

J. Attachments

Attachment IV.1: Screening Form for Potential Environment and Social Issues

Attachment IV.1

Screening Form for Potential Environmental & Social Safeguards Issues

This form is to be used by the Implementing Agency to screen potential environmental and social safeguards issues of a sub project, determine Bank policies triggered and the instrument to be prepared for the sub project

Subproject Name	
Subproject Location	
Subproject Proponent	
Subproject Type/Sector	
Estimated Investment	
Start/Completion Date	

Questions	Answer		If Yes AIIB Policy triggered	Documents requirement if Yes
	yes	no		
Are the subproject impacts likely to have significant adverse environmental impacts that are sensitive[3], diverse or unprecedented?[4] Please provide brief description:			*Environmental Assessment* Category A	Environmental and Social Impact Assessment (ESIA)
Do the impacts affect an area broader than the sites or facilities subject to physical work and are the significant adverse environmental impacts irreversible? Please provide a brief description:			*Environmental Assessment* Category A	ESIA
Is the proposed project likely to have minimal or no adverse environmental impacts?[5] Please provide a brief justification:			*Environmental Assessment* Category C	No action needed beyond screening
Is the project neither a Category A nor Category C as defined above?[6] Please provide brief justification:			*Environmental Assessment* Category B	Limited ESIA or ESMP
Are the project impacts likely to have significant adverse social impacts that are sensitive, diverse or unprecedented[7]? Please provide brief description:			*Environmental Assessment* Category A	ESIA

[3] Sensitive (i.e., a potential impact is considered sensitive if it may be irreversible - e.g., lead to loss of a major natural habitat, or raise issues when a project includes the manufacture, use, or disposal of environmentally significant quantities of pest control products).

[4] Examples of projects where the impacts are likely to have significant adverse environmental impacts that are sensitive, diverse or unprecedented are large scale infrastructure such as construction of new roads, railways, power plants, major urban development, water treatment, wastewater treatment plants and solid waste collection and disposal etc.

[5] Examples of projects likely to have minimal or no adverse environmental impacts are supply of goods and services, technical assistance, simple repair of damaged structures etc.

[6] Projects that do not fall either within as a Category A or Category C can be considered as Category B. Examples of category B sub-projects include small scale *in-situ* reconstruction of infrastructure projects such as road rehabilitation and rural water supply and sanitation, small schools, rural health clinics etc.

[7] Generally, sub projects with significant resettlement-related impacts should be categorized as A. Application of judgment is necessary in assessing the potential significance of resettlement-related impacts, which vary in scope and scale from sub project to sub project. Subprojects that would require physical relocation of residents or businesses, as well as sub projects that would cause any individuals to lose more than 10 percent of their productive land area, often are categorized as A. Scale may also be a factor, even when the significance of impacts is relatively minor. Sub projects affecting whole communities or relatively large numbers of persons (for example, more than 1,000 in total) may warrant categorization as A, especially for projects in which implementation capacity is likely to be weak. Sub projects that would require relocation of Indigenous Peoples, that would restrict their access to

Will the project adversely impact physical cultural resources?[8] Please provide brief justification:			*Physical Cultural Resources*	Addressed in ESIA (ESIA with PCR Management Plan and/or Chance Find Procedures)
Will the project involve the conversion or degradation of non-critical natural habitats? Please provide brief justification:			*Habitats*	Addressed in ESIA
Will the project involve the significant conversion or degradation of critical natural habitats[9]?			*Habitats*	Not eligible
Does the sub-project construct a new dam or rely on the performance of an existing dam or a dam under construction?			*Dam Safety*	Dam Safety Plan
Does the project procure pesticides (either directly through the project, or indirectly through on-lending, co-financing, or government counterpart funding), or may affect pest management in a way that harm could be done, even though the project is not envisaged to procure pesticides?			*Pest Management*	Addressed in ESIA (Pest Management Plan)
Does the sub-project involve involuntary land acquisition, loss of assets or access to assets, or loss of income sources or means of livelihood? Please provide brief justification:			*Involuntary Resettlement*	Resettlement Action Plan
Are there any ethnic minority communities present in the sub project area and are likely to be affected by the proposed sub-project negatively or positively? Please provide brief justification:			*Indigenous Peoples*	Ethnic Minority Development Plan/Indigenous Peoples Plan
Will the project have the potential to have impacts on the health and quality of forests or the rights and welfare of people and their level of dependence upon or interaction with forests; or aims to bring about changes in the management, protection or utilization of natural forests or plantations? Please provide brief justification:			*Forestry*	Addressed in ESIA
Will the project have the potential to have significant impacts or significant conversion or degradation of critical natural forests or other natural habitats?			*Forestry*	No eligible

Conclusion and Safeguards Instruments Required:

The sub project is classified as a Category ________ project as per Asian Infrastructure Investment Bank ESF, and the following safeguards instruments will be prepared:

1. ______________________________
2. ______________________________
3. ______________________________
4. ______________________________
5. ______________________________

traditional lands or resources, or that would seek to impose changes to Indigenous Peoples' traditional institutions, are always likely to be categorized as A.

[8] Examples of physical cultural resources are archaeological or historical sites, including historic urban areas, religious monuments, structures and/or cemeteries particularly sites recognized by the government.

[9] Subprojects that significantly convert or degrade critical natural habitats such as legally protected, officially proposed for protection, identified by authoritative sources for their high conservation value, or recognized as protected by traditional local communities, are ineligible for Bank financing.

VIII. TECHNICAL AND FINANCIAL PROPOSAL

271. The Consultant shall provide a Technical and Financial proposal for consideration, with the proposal being unconditional and fully addressing the requirements of this ToR. The format of the proposal is to include:

Technical Proposal

272. The Technical Proposal shall incorporate the following contents, within a maximum 40 (A4) pages, excluding Annexes and Curriculum Vitae (CV):

- Approach for undertaking data collection and analysis of data including the potential tools that will be used; how to address data limitations; The Consultant to indicate analysis, questionnaire, key informant interviews, workshops, meetings etc. required to meet the ToR objectives;
- Describe how the Consultant will ensure quality control of the activities undertaken by the subcontractor(s)/local consultant and then list which activities will be undertaken by the international personnel and which by the local subcontractor(s) for the works (which work will be conducted in-country or remotely);
- Disclosure, consultation and communication material section and tools with indication on how the Consultant will secure participation and organize the required activities;
- Scope of Work timeline including Gantt chart;
- Limitation or risks to reach the ToR goals and how to overcome them;
- E&S Consultancy firm's experience in similar assignment at company level (such as ESIA including ESMP, RAP, GAP, LMP, LRP and IPP) with a focus on five (5) most recent and relevant assignments similar to this ToR; and
- Key personnel list and related CVs as required in the ToR (no more than four (4) pages each CV and including a recent and relevant list of projects and related activities undertaken by personnel relevant to this ToR). The Consultant and its personnel are expected to flag any regional and in country experience.

273. The Consultant is fully responsible for the organization and implementation of any site visits and consultation activities onsite, including logistics, international and local travel, accommodation, staff health and safety coverage[10], software, maps, tools for recording waypoints, editing of documents for public disclosure, translation, etc.

Financial Proposal

274. The Consultant shall provide the total cost to undertake the work, together with a breakdown of:

- Person-days input of each professional/location;
- Daily rate of each professional;
- Details of major expenses; and

[10] Sponsor would like to encourage the Consultant to monitor and follow local and national health authority guidance (e.g., COVID-19) to help ensure a healthy, safe, and secure work environment for all during the work. Therefore, if face to face interaction will not be possible using in country staff, other means of communication consultation can be used to undertake the work.

- Details of any expenses that will be charged by unit rate.

275. All the travel cost, mobility in country; organization of consultation meetings in country and venue cost including materials, travel, accommodation, translation; health issuance of the consultant staff; use of technical materials needed to undertake the work, including GIS maps; English and Local language editing of documents; rounds of comments with Sponsors (and AIIB when present) for the finalization of the delivery etc. shall be accounted in the cost estimate and provided with cost of item and related details in the Financial Proposal. The Consultant to provide the Financial Proposal also in an Excel format, which includes details as per task, activity and resources assigned to each task/activity**.**

276. The Technical and Financial proposals are to be developed as separate documents and soft copies are to be emailed to MRD review and consideration. The sponsor will review proposals and also seek inputs from AIIB, with the Consultant expected to address comments as part of the Proposal appraisal process. The selected The Consultant will be invited to enter final negotiations and contracting phase with Sponsor prior to the work commencing.

IX. SPECIAL TERMS & CONDITIONS

277. **Health and Safety Requirements.** The Consultant and its contractor(s) if any, working on site and travelling on Project site must have appropriate health and safety training and insurance. A site-specific Health and Safety Plan will have to be prepared before commencing any field site investigation activity. It is under the full responsibility and costs of the Consultant the health and safety of its personnel during the work.